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Railway Age

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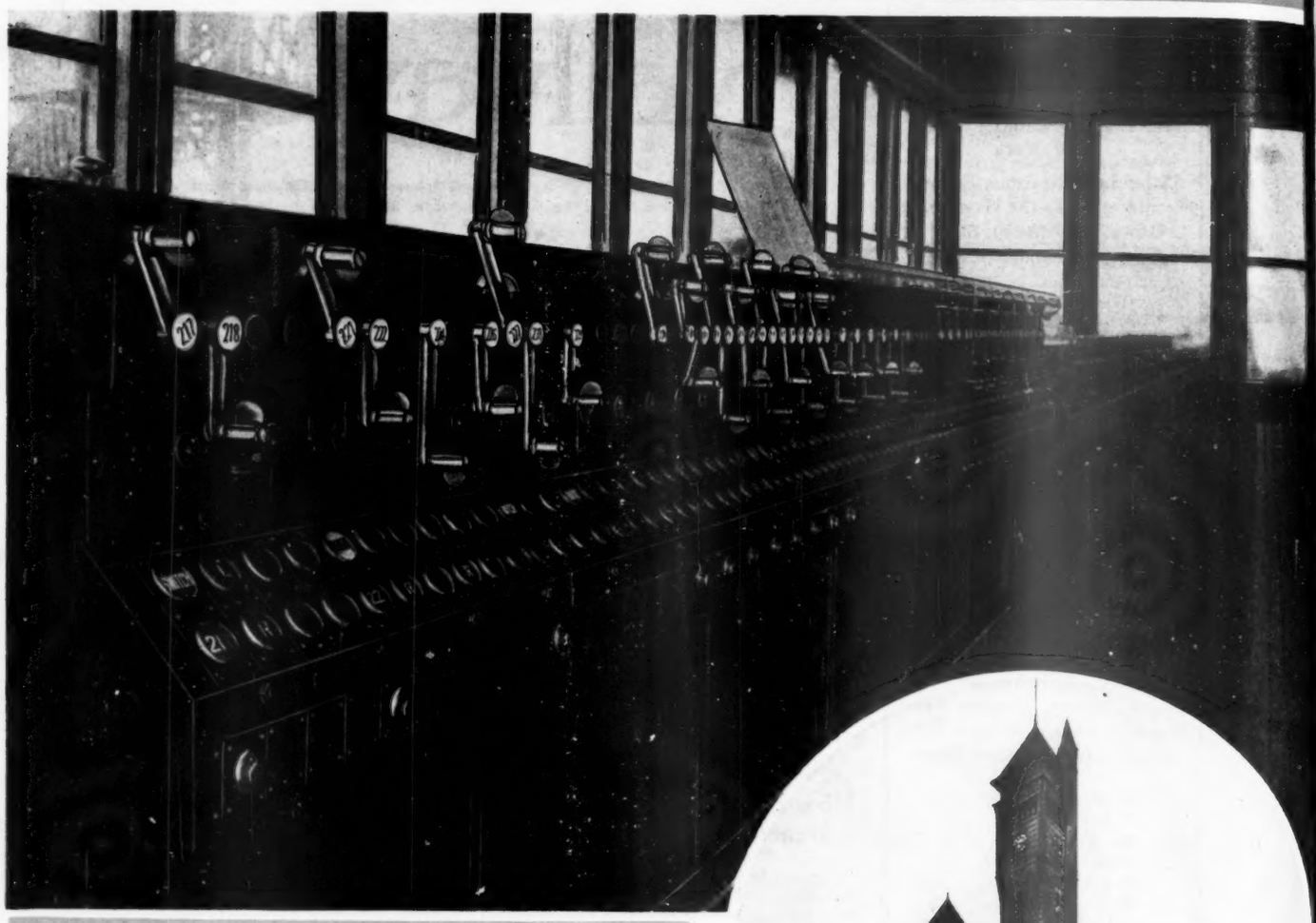

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Railway Age

Vol. 89, No. 5 August 2, 1930

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The Grain Rate Decision

THE decisions of the Interstate Commerce Commission in the eastern district and western trunk line territory class rate cases, which gave some encouragement to the railways, have been quickly followed by its decision in the grain rate case, which is very discouraging to the western lines. The decision in the western class rate case will yield the carriers in western trunk line territory not more than 12 million dollars annually, even though intra-state rates are raised to the level of the interstate rates authorized, and no order for raising the intra-state rates has yet been issued. The benefit that will be derived from this decision is therefore still speculative. There is much less doubt as to the effect that will be produced by the decision in the grain rate case. Commissioner Woodlock, in his opinion, said that the new grain rates "will involve a reduction of at least 15 million dollars in the revenues of carriers in the western district—perhaps more." The net effect of the two decisions, therefore, will be a reduction in the earnings of the western lines.

The commission repeatedly has held that the western group of roads has not earned a fair return since the return of the railways to private operation. In the first five months of 1930 the railways in the northwestern region earned at the annual rate of 2.08 per cent; those in the central western region, 3.43 per cent; those in the southwestern region, 3.39 per cent, and those in the entire western district, 3.08 per cent. Since 1920 they have lost one-half of their passenger earnings, representing a revenue loss of $260,000,000 annually and their average revenue per ton mile is only 29 per cent higher than it was in 1913. They have appealed repeatedly to the commission for readjustments of rates to enable them to earn somewhere near the "fair return" assured them under the Transportation Act, and now the commission in one important case gives part of them an advance in rates, ostensibly for the express purpose of increasing their revenues, and then, immediately, in another important case, makes a reduction of rates that exceeds the one just previously granted.

"We are satisfied," said the commission in its opinion in the grain rate case, "that the readjustment (of grain rates) will not threaten the maintenance of an adequate system of transportation. We say this especially in the light of increased revenues already granted in certain other cases, and in the realization that a failure of the present revision to afford adequate revenues will prompt further proceedings." In a concurring opinion, Commissioner Eastman intimated that there are rates in western territory which the carriers on their own initiative should seek to advance, but said that "where the movement of important traffic is controlled by large concerns which can divert it at will from one competitive route to another, the initiative of the carriers in this respect may be subject to paralysis. * * * It is a situation," he added, "which calls for courage and co-operation on the part of the carriers, and if they are lacking in these qualities they will have themselves primarily to blame for the consequences which may ensue."

History Repeats Itself

All of which recalls what has happened before. Repeatedly the commission has ordered reductions of rates, and indicated to the carriers that they should try to recoup themselves by getting together and agreeing upon changes in other rates and practices. The commission is familiar with the competitive conditions, sanctioned by the very law it administers, that make it extremely difficult for the railways to co-operate in taking the initiative in advancing the rates of big shippers. Nevertheless, after reducing other rates, it leaves the initiative regarding these rates entirely to the railways, and says, in effect, that if the railways do not take the initiative it will be their own fault and they must take the consequences.

Does it overlook, or merely ignore, the fact that if the consequences to the railways are serious, they will also be serious to the public, because of the effects upon railway service?

The law directs the commission so to adjust rates as to enable the railways to earn enough to provide adequate transportation. Suppose the commission makes reductions in some rates, and the carriers fail to take the initiative in behalf of advances in other rates, with the result that earnings will become insufficient to maintain an adequate system of transportation. Will the railways then be entirely "to blame for

the consequences which may ensue," or will not the commission as well as the railways be responsible for the consequences?

The grain rate investigation was begun in accordance with the Hoch-Smith resolution. The decision of the Supreme court in the California deciduous fruit case holding the commission's interpretation of the Hoch-Smith resolution erroneous was rendered on June 2. The commission's decision in the grain rate case is dated July 1. Only a very superficial reading of the opinions is necessary to make it clear that the grain rate decision was reached and most of the opinions of the commissioners written before the Supreme court rendered its decision on June 2, and that the decision was made in accordance with the commission's interpretation of the Hoch-Smith resolution, which the Supreme court condemned. Decisions of the Supreme court favorable to the railways seem to be of little value to them. No less than nine of the eleven members of the commission wrote "concurring" or "dissenting" opinions in which they dissented from one or more parts of the decision. Railway executives so often disagree because each of them is influenced by the supposed interest of the property he represents. When members of the commission, each of whom is presumed to represent the interests of the nation, have such a hard time agreeing, it is unbecoming of them to make uncharitable remarks about differences of opinion among railway executives which prevent them from co-operating.

Optimism Regarding Railway Service

The history of railway regulation has repeated itself in the decisions in the class rate and grain rate cases. Ever since the Hepburn act went into effect 24 years ago, excepting in 1920, the commission has been able to find reasons for reducing rates, regardless of agricultural and industrial conditions, railway earnings and railway efficiency. The rates of the western lines always have been under the greatest pressure because there always has been more political agitation for rate reductions in the west than elsewhere. The government raises the tariff to help manufacturing industries, it creates a farm board with a large appropriation to help agriculture, it spends many hundred millions of dollars upon highways and waterways to aid both industry and agriculture, and incidentally to divert traffic from the railways. It asks the railways in a period of depression to make large capital expenditures to help maintain business. Then, regardless of the wholly inadequate and confiscatory return being earned, it reduces the rates of the western lines and gracefully "passes the buck" to them by inviting them to take action to secure advances in other rates that would embroil them with many of the big shippers. Confronted with political regulation, on one hand, and the power of big shippers, on the other hand, the managers of the western lines know just what it is to be "between hell and high water." They will, however, be flattered by the commission's statement, "We are satisfied that the readjustment (in grain rates) will not threaten the maintenance of an adequate system of transportation." The commission having for ten years failed so to regulate the rates of western railways as to enable them to earn anywhere near the fair return, assured them by the Transportation Act, and the railways having nevertheless provided adequate transportation, their managers will know how to appreciate the significance of the commission's intimation that, no matter how badly they may be treated, the railways will continue to return good for evil; and give the service that an ungrateful government and public demand and at the same time do about all they can to make impossible.

The Expanding Use of the Motor Truck

IT is becoming increasingly evident that independent motor trucks are widening their field of operation and are thus becoming more and more of a competitive danger to the railroads. The truck is a flexible unit which offers a type of service which the railroad alone cannot give. Its disadvantage is its comparative high cost for line haul. On the other hand, the advantages in flexibility and frequency of service, the saving in costs of packing and other economies may often permit the truck operator to overcome the disadvantage of a wastefully long line haul, and still compete for the business.

The strength of the railroad in meeting this sort of competition lies in the fact that the railroad, co-ordinated with the motor truck, can give all the advantages of all-highway transportation with the further advantage of low-cost line-haul. It is true, however, that railroad adaptation of the motor truck to give this kind of co-ordinated service has not yet progressed to the point where a final solution may be proclaimed. Interesting experiments are being carried out here and there but no general plan has yet been devised which has gained wide acceptance.

Is there not a real and urgent need for concentration on this problem? The efforts of several railroads to meet this situation deserve the careful study and attention of all. Wherein are these plans satisfactory and wherein are they susceptible of improvement? What are the possibilities of the unit container in bringing about an easier transfer between rail and highway? What has the Railway Express Agency with its years of experience in collection and delivery to offer to the railroads toward the solution of the problem? Bold experiment rather than overly cautious conservatism would seem to be required. The highway operator, frequently a man "on the make" with humble beginnings and no burden of regulation and commercial tradition to restrain him, is often a daring innovator, not always to his gain. But the fact remains that in the chaotic state of highway transportation, everything conceivable is being tried. Many such efforts will fail, but some will succeed. Can the railroads hope successfully to cope

with the vigorous and widespread, even if not always intelligent, efforts being made to find what this new agency can do, unless they proceed with equal vigor themselves to experiment in every promising direction to adapt it to their needs?

I.C.C. Pension Accounting

THE article by J. C. Clark of The Equitable Life Assurance Society on Funding Railroad Pension Plans, appearing elsewhere in this issue, raises some vital questions with respect to accounting for pension expense under Interstate Commerce Commission accounting requirements. Numerous actuarial studies show that on the average the life expectancy of a group of pensioners on any given date is about eight years. It follows that about eight times the annual payments to the group would be required to complete prospective payments to the pensioners included in the group at any given time.

The reports of the Class I carriers to the I.C.C. for the year 1929 show that approximately $25,000,000 was paid to pensioners by these carriers during the year and it will, therefore, require about $200,000,000 to complete pension payments to this group of pensioners. Among students of the subject this $200,000,000 item would be referred to as the matured pension liability. The pension liability that has accrued because of the past service of employees still active is in all probability a much larger figure, but it has never been determined, or even estimated.

In 1907 the I.C.C. made effective an accounting classification under which the carriers were directed to charge to operating expense amounts paid directly to pensioners. This rule has been followed by all the carriers except two from 1907 to the present time. But the simple analysis above shows clearly that this method of accounting has understated the cost arising from the operation of railroad pension plans by the amount of the matured liability, or about $200,000,000, plus the accrued liability which is unknown, but probably a much larger figure.

In November, 1928, the I.C.C. adopted a note to the old text of the pension expense account under which the carrier, under certain conditions, may charge operating expense with the current cost of its pension plan, determined by actuarial methods. This note to pension expense account 457 is a step in the right direction, inasmuch as it recognizes the only scientific method of determining pension costs, but the conditions to be met by the carrier before this method can be adopted are such as practically to nullify the order. One condition is that the $200,000,000 item referred to above must be charged to profit and loss account. As Mr. Clark states in his article referred to above, this exacts a penalty from the stockholders for handling pension expense accounts in the only way they could have been handled under I.C.C. orders in effect from 1907 to 1928. Another condition is that the carrier must assume a contractual obligation for the payment of pensions. What is meant by this? Another condition is that the carrier must create a pension trust fund.

Obviously these are questions of importance because they affect the interests of more than 90 per cent of all railroad officers and employees and because large amounts of money are involved. What safeguards, if any, should the I.C.C. place around pension funds, accumulated through charges to operating expense, for the payment of pensions being earned now but to be paid in the future? Are not all costs arising from the operation of a railroad pension plan properly chargeable to operating expense? Should not each generation of rate payers pay their proportionate share of this cost? Is there any justification for present or past management making promises to pay pensions, but passing the financial burden on to future management and future rate payers to bear? Can any management keep faith with its employees unless it assumes the proper share of the cost?

James E. Howard

THE death of James E. Howard, engineer-physicist of the Bureau of Safety, Interstate Commerce Commission, marks the termination of a career that, in its later years, was intimately and constructively identified with a distinctly baffling railway problem. Although he had rendered valuable service to the metal-using industries through long years of scientific research at the Watertown arsenal, it was only within the last twenty years, after he was 60 years of age, that he came directly before the railways through his studies of transverse fissures in rails.

He first brought this form of failure to the attention of the railways in his investigation of the disastrous derailment at Manchester, N. Y., in 1911, and at that time expressed the opinion that this hitherto unrecognized defect was a result of excessive wheel pressures. In subsequent discussions and reports he elaborated this theory, modifying it somewhat in the light of more extended data. While railway men took exception to his conclusions, further study brought them closer together in their mutual search for the solution of this problem.

Approaching the transverse fissure with the attitude of a scientist, at a time in life when most men are looking forward to relief from strenuous activities, he won the respect of those with whom he came in contact to an unusual degree by his friendly manner, his lack of commercial considerations and above all, his sincerity of purpose. While the problem of determining the origin and methods of prevention of the transverse fissure is not yet solved, Mr. Howard rendered an invaluable service to the railways by bringing this form of rail defect before them so emphatically that they were forced to give it the study which they now realize that its importance merits.

Looking Toward the East End of the Inbound Classification Yard

C. & N. W. Completes Large Freight Terminal

New yard at Proviso and revised operating methods expedite movement and increase capacity of Chicago terminals

TO MEET the needs of its constantly growing traffic and to provide facilities for the more expeditious movement of this traffic in and out of Chicago, the Chicago & North Western has built and placed in operation an extensive freight terminal at Proviso, Ill., 14 miles west of the business center of Chicago. The yard, which is L-shaped, is approximately five miles long and covers an area of 1,500 acres. A hump has been provided for classification in the eastbound yard and the ultimate development contemplates a similar hump in the westbound yard. The total trackage aggregates 230 miles, there are 760 switches and more than 3,000,000 cu. yd. of grading were required for its construction. This project has already involved the expenditure of $11,000,000 and the ultimate development is expected to increase this amount to $15,000,000 or more.

Before Proviso yard was placed in operation, the main receiving and classification yard was located at Crawford avenue, Chicago, where extensive facilities were maintained for receiving, classifying and dispatching both inbound and outbound business. Formerly, cars were interchanged directly with eastern and southern roads, but changed conditions elsewhere in the Chicago district made it desirable to deliver this interchange through the three inner belt lines which serve this district. The junction with the Indiana Harbor Belt (formerly the Chicago Junction), the most westerly of these belt lines, is at Proviso. Since the Chicago Terminal Transfer, the predecessor of the Baltimore & Ohio Chicago Terminal which is the second of the belt lines in order of location, reached the North Western rails over the tracks of the Indiana Harbor Belt, Proviso became the logical point to establish interchange facilities with these roads. Accordingly, a small interchange yard was constructed here in 1903. Later the Chicago & North Western and the Chicago, Milwaukee & St. Paul (now the Chicago, Milwaukee, St. Paul & Pacific) became joint owners, with the New York Central and Michigan Central, of the Indiana Harbor Belt. The junction with the Belt Railway of Chicago, the third and innermost belt line, is at Crawford avenue.

Three Main Lines Radiate from Chicago

In order to understand fully the problems which have confronted the operating officers of this road for a number of years, it is necessary to explain the conditions surrounding the movement of traffic in and out of its Chicago terminal. The Chicago & North Western has three main lines radiating from Chicago, one running west to Omaha, another, known as the Wisconsin division, northwesterly to St. Paul and Minneapolis and the third to Milwaukee and other Wisconsin and Northern Michigan points. The Omaha line, or Galena division as it is more commonly known, passes through Proviso and enters Crawford avenue yard from the west. Prior to the time the interchange yard at Proviso was constructed, and for several years thereafter, freight trains to and from the Milwaukee and Wisconsin divisions were routed from Crawford avenue yard over the Mayfair cut-off which runs directly north from the west end of this yard.

The North Western also maintains freight receiving and delivery stations and yards at Crawford avenue, California avenue, Wells street, Wood street, Carpenter street, Sixteenth street, North avenue, Deering, Ravenswood, Summerdale, Rogers Park, Rosehill, Cragin, Maplewood, Avondale and Mayfair in Chicago and at

numerous other points in the metropolitan area surrounding the city. Owing to the constant increase in traffic, the terminal facilities at Crawford avenue were becoming inadequate. In order to relieve the pressure on this yard, as well as to expedite the movement of traffic through the terminal, a large amount of switching was necessary at a number of these secondary yards.

The construction of the interchange yard at Proviso permitted a direct interchange of the traffic originating on the Galena division and to this extent relieved the pressure on Crawford avenue. It did not afford corresponding relief so far as the Wisconsin and Milwaukee divisions were concerned, since it was still necessary to switch the interchange cars between these lines and the eastern and southern connections at Crawford avenue and move them between this yard and Proviso on transfer trains.

A New Route Provided

To afford still further relief to the terminal operation, as well as to expedite the movement of its growing and important through traffic, by making a direct interchange at Proviso of cars from all of these main routes, a connection known as the Des Plaines Valley line was built northerly from Proviso in 1910. This road crosses the Wisconsin division at Des Plaines, Ill., and connects with the Milwaukee division at Blodgett, Ill.

When this new line was completed, all freight trains handling connecting line traffic were routed through Proviso, thus saving considerable time on cars received from or delivered to southern and eastern roads, at the same time affording further relief to the terminal yard at Crawford avenue as well as to some of the secondary yards. As a part of this project, the interchange yard at Proviso was enlarged to a capacity for 3,173 cars, divided between inbound and outbound units, which were located respectively south and north of the Galena division main tracks and immediately west of the crossing with the Indiana Harbor Belt. Complete engine terminal facilities were also provided at this time, so that it became unnecessary for many of the road trains to proceed beyond this point.

Proviso Yard

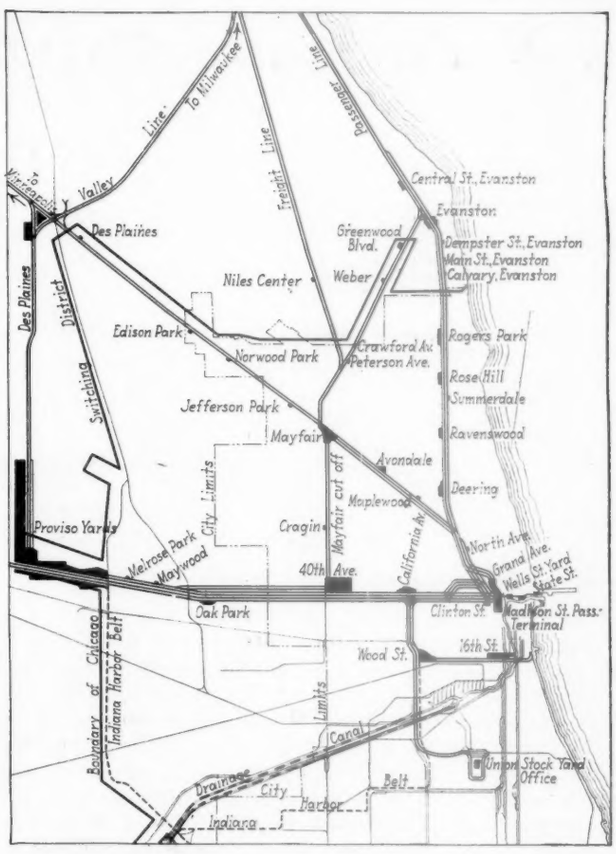
The increase in traffic continued, however, and, since Crawford avenue yard is located in a built-up section of the city, it was evident that it would be necessary eventually to remove the entire switching operation to some other point. Accordingly a committee of engineering, traffic and operating officers was formed in 1921 to make a complete survey of the freight terminal facilities of the road and recommend a comprehensive plan of terminal development and operation adequate for present needs and capable of expansion as may become necessary. As a result of this survey, the existing facilities at Proviso were enlarged to provide for receiving, classifying and dispatching all inbound and outbound freight traffic and to serve as the main switching facility for the Chicago terminal.

The new Proviso terminal lies immediately went of the crossing with the Indiana Harbor Belt, and includes separate inbound and outbound yards, the original engine terminal and extensive l.c.l. transfer facilities, the latter being described in the *Railway Age* for November 5, 1927. The original interchange units were incorporated in the new yard without change, other than in the leads, and are now utilized as hold yards.

The receiving unit for inbound trains is located north of North avenue, a 200-ft. arterial highway leading west from Chicago, the south end of this unit being about one mile north of the inbound classification hump. It lies adjacent to and parallel with the main tracks of the Des Plaines Valley line, so that it is at nearly right angles to the main axis of the yard at its westerly end, thus making an L-shaped layout. At the extreme west end of the yard, the Des Plaines Valley line ends in a double-track wye connection with the Galena division, thus providing a direct route for inbound trains from the Galena division to the inbound receiving yard, and, at the same time, permitting outbound trains on the Milwaukee and Wisconsin divisions to pull directly onto the main track of the Des Plaines Valley line and proceed on their respective routes. At the east end, the inbound forwarding yard is connected with the Indiana Harbor Belt by a single-track wye, while a single track connects the belt line with the outbound receiving yard.

The Inbound Yard

The inbound yard consists of five units, the receiving yard, a hump and classification yard, a forwarding yard, a repair yard and a hold yard. The receiving yard con-



C. & N. W. Freight Terminal Facilities in Chicago

sists of 30 tracks, each having a capacity for 100 cars, and is located approximately a mile north of the hump. The classification yard consists of 59 tracks having capacities ranging from 44 to 96 cars. Partly to provide room for the piers for two highway viaducts, which cross the yard from north to south, and partly to reduce the distance between the hump and clearance point of the classification tracks, this yard is laid out in groups of six and seven tracks, each of which has an independent lead from the two main leads. Substantially the same arrangement of leads was applied at the east end, thus reducing the length of this yard and at the same time providing maximum car capacity for the

classification tracks. The forwarding yard contains 21 tracks ranging in capacity from 69 to 117 cars.

The inbound receiving yard, which is practically level, is connected with the hump by a double-track lead approximately a mile long, the grade of which is also level. Owing to the relative positions of the axes of the receiving and classification yards, this lead curves sharply to the left just before it reaches the hump.

The Outbound Yard

The outbound yard consists of nine units, a receiving yard, a classification yard of three units, a forwarding yard, two repair yards, a hold yard and the l.c.l. transfer freight house yard. The switching section of this yard consists of 57 tracks. Ten tracks in the middle of the yard are used for receiving trains; 21 tracks on the south are assigned as classification tracks for the Galena division and 26 tracks on the north are used to classify trains for the Wisconsin and Milwaukee divisions. The receiving tracks vary in capacity from 114 cars to 120 cars. The capacity of the classification tracks ranges from 50 cars to 106 cars.

The outbound yard is not now provided with a hump for classification switching. The fact that the general slope of the land is to the east and the further fact that two north and south arterial highways cross the yard on overhead structures practically prohibit the construction of an outbound hump near the east end of this yard. It is probable, therefore, that in the ultimate development of the project, the classification facilities for the outbound movement will be located parallel with and adjacent to the Des Plaines Valley line, in the vicinity of the present inbound receiving yard.

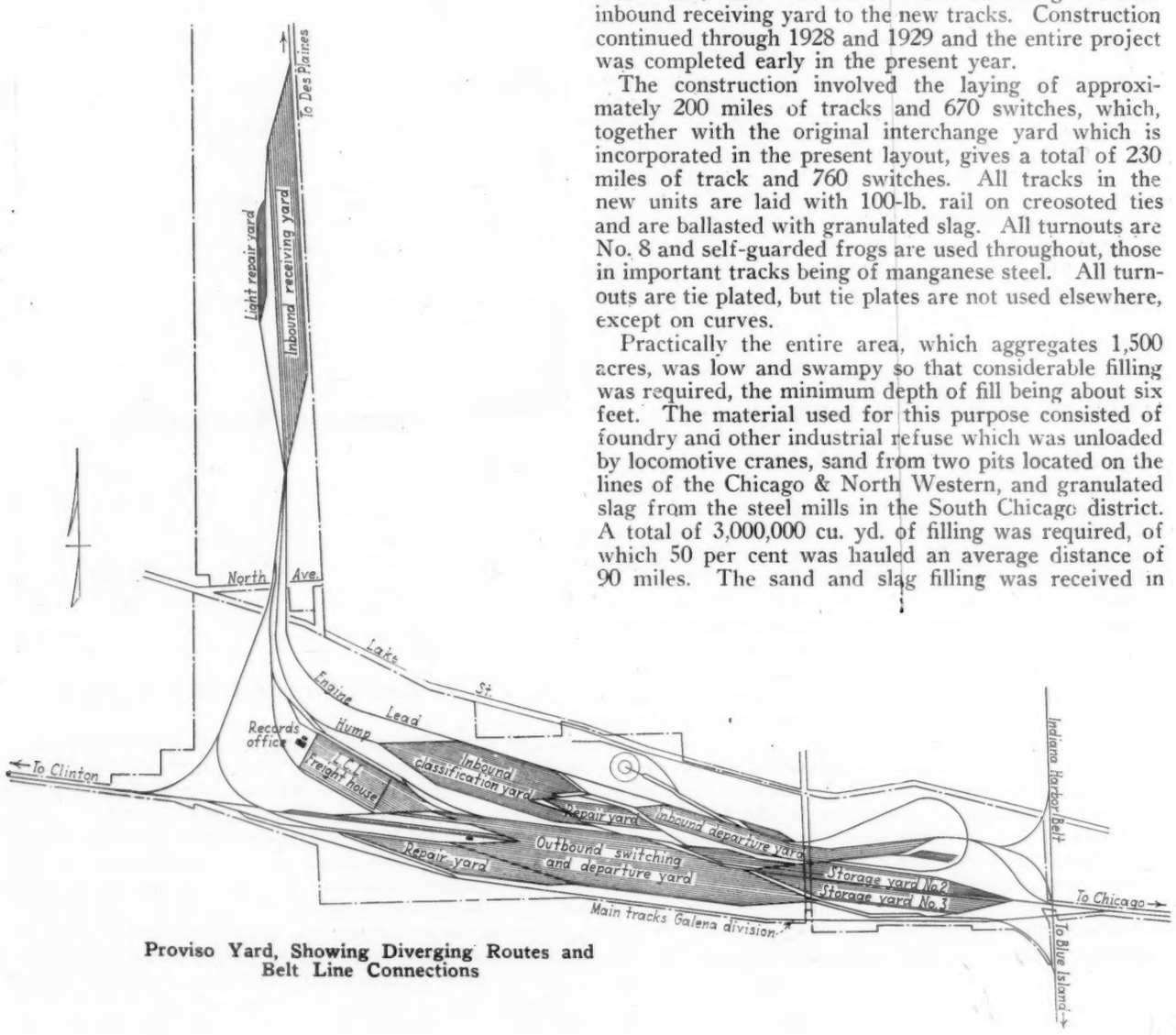
Construction Program

Construction was started in 1924, the work during that year consisting of the diversion of the main tracks which were relocated to pass to the south of the new yard. The following year the inbound receiving yard was constructed and placed in operation. To provide for uninterrupted switching of the interchange traffic, this yard was designed for the dual purpose of a permanent receiving yard and a temporary switching yard for both inbound and outbound business. At this time the Des Plaines Valley line was extended to give a double track connection from this yard to the wye connection with the Galena division.

In the fall of 1926, the construction of the general freight office, the l.c.l. transfer facilities and 43 tracks in the outbound yard was begun, and these were completed and ready for operation in October, 1927. The completion of this section of the outbound yard permitted the transfer of the outbound switching from the inbound receiving yard to the new tracks. Construction continued through 1928 and 1929 and the entire project was completed early in the present year.

The construction involved the laying of approximately 200 miles of tracks and 670 switches, which, together with the original interchange yard which is incorporated in the present layout, gives a total of 230 miles of track and 760 switches. All tracks in the new units are laid with 100-lb. rail on creosoted ties and are ballasted with granulated slag. All turnouts are No. 8 and self-guarded frogs are used throughout, those in important tracks being of manganese steel. All turnouts are tie plated, but tie plates are not used elsewhere, except on curves.

Practically the entire area, which aggregates 1,500 acres, was low and swampy so that considerable filling was required, the minimum depth of fill being about six feet. The material used for this purpose consisted of foundry and other industrial refuse which was unloaded by locomotive cranes, sand from two pits located on the lines of the Chicago & North Western, and granulated slag from the steel mills in the South Chicago district. A total of 3,000,000 cu. yd. of filling was required, of which 50 per cent was hauled an average distance of 90 miles. The sand and slag filling was received in



Proviso Yard, Showing Diverging Routes and Belt Line Connections

side-swing-door cars and plowed off in place with a Lidgerwood and ballast plow.

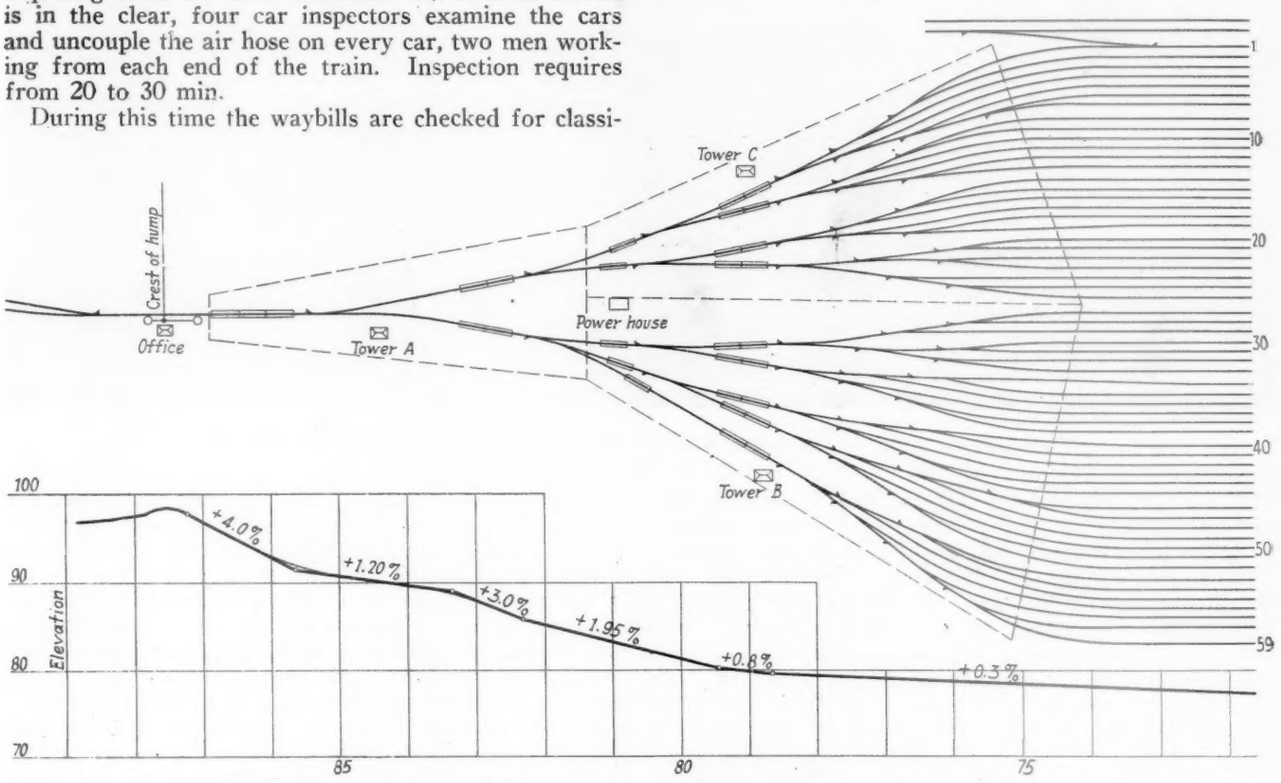
The Inbound Operation

As trains pull into the receiving yard from any of the three main lines, the bills are delivered from the locomotive to the yard office and are sent immediately by pneumatic tube to the freight office, 1.5 mi. distant, requiring about 2.5 min. in transit. As soon as a train is in the clear, four car inspectors examine the cars and uncouple the air hose on every car, two men working from each end of the train. Inspection requires from 20 to 30 min.

During this time the waybills are checked for classification, and a switch list is prepared on a Teletype machine which automatically prints duplicates on receiving instruments in the office of the hump yard master and each of the three switch-control towers. An interesting feature of the Teletype installation is that each of the receiving instruments is enclosed in a case that is lined with Celotex to make it sound proof. The result is that the operation of the machine does not distract the towerman or those in the hump office.

As soon as the car inspectors complete their work, one of the hump engines pushes the train to the hump. Since the grade between the receiving yard and hump is level a single engine is able to handle trains of 100 cars without difficulty. The movement over the hump is under the direction of a humpmaster. Owing to the curve at the south end of the lead from the receiving yard, color-light signals, which are under the control of the humpmaster, have been installed at frequent intervals. These signals are manually controlled, and by various combinations of the three colors—green, yellow and red—a complete set of indications is given to the engineman on the hump engine. These indications range from fast and medium speeds to slow, stop and back-up. An independent signal, also manually controlled, indicates when trimming is required. If necessary, the operator in the first switch-control tower can set the signals at stop, but this is the limit of his control over them.

A conductor, assisting the humpmaster, checks the cars against the switch list, and directs the cutter who separates the cuts as they pass over the crest of the hump. One brakeman is held in reserve to ride cabooses or cars loaded with milk, livestock, explosives or other lading which requires special care in handling. A loud-speaker telephone system with sending and receiving sets gives instant communication between the hump and the towers, and facilitates the exchange of information as to the movement of cars or changes in switch lists.

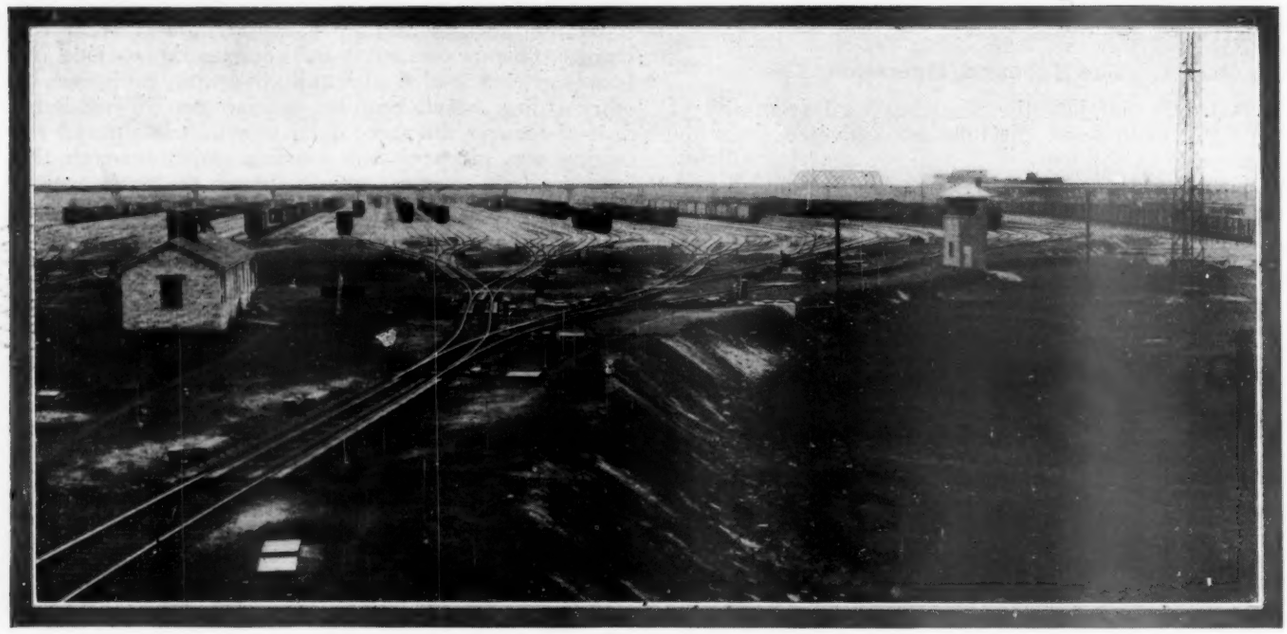


Hump Grades, Car Retarders and Track Arrangement for Inbound Classification

Car Retarders Facilitate Switching

Car retarders of the all-electric type, furnished by the General Railway Signal Company, are installed on the hump and on the leads to the various sections of the classification yard. The grouping of the classification tracks which has been mentioned, had the further advantage that it reduced the number of retarders which would have been required otherwise, since under this arrangement one retarder is made to serve all of the tracks in any one group. A total of 30 retarders are in service, so located that a car on any route must pass through eight of them before it enters the track to which it is assigned. The retarders are controlled from the three switch-control towers, the first of which controls the two main routes, while the other two control the secondary routes on the north and south sides of the yard respectively. The all-electric power switch machines for operating the switches were also furnished by the General Railway Signal Company.

The gradients on the hump and classification leads were designed to secure as rapid acceleration and quick separation of the cuts as practicable. The average distance from the crest of the hump to the clearance points in the classification tracks is 975 ft. Starting at the crest of the hump there is a 4 per cent grade for 160 ft., which gives a high rate of acceleration and quick



Looking Down the First Diverging Route at West End of Inbound Classification Yard

separation, followed by a 1.2 per cent grade for 230 ft. Next, there is 100 ft. of 3 per cent grade to secure a further separation of the cars on the two main routes, followed by 265 ft. of 1.95 grade on each of the diverging routes, while finally, an 0.8 per cent grade 80 ft. long extends through the last set of retarders. The total fall from the crest of the hump to the last retarder is 18.38 ft. in 856 ft., making an average grade of 2.14 per cent. From the last retarder, a non-accelerating grade of 0.3 per cent extends through the classification yard. At the east end of the classification tracks there is a sharp ascending grade for 200 ft. to stop the moving cars. In addition, hand-operated skates are placed some distance back of the clearance point as an additional precaution to insure that the cars will be stopped.

Speed of Operation

This classification yard is greatly expediting the movement of cars through the terminal. Thirty inbound time freight trains are scheduled daily, some of which arrive in two or more sections. In addition, slow freight trains and extras are run in accordance with the requirements of traffic. These trains consist of from 70 to 100 cars each, about 60 per cent of which are destined to connecting lines, while the remainder are for delivery to freight houses, team tracks or industries on North Western rails in the Chicago area.

All trains arriving before 6 a. m. are classified and the cars for North Western delivery are set at freight houses, industries or on team tracks in time for the opening of business. Likewise, the cars for connecting lines which arrive up to 7 a. m. are delivered to the belt lines in time for 10 a. m. and noon departures from Blue Island, Gibson, Colheur and other connecting line terminals. The Mohawk, a fast main tracker from St. Paul, arrives at 12:30 p. m. and all cars are classified and ready for departure by 2:15 p. m. in order to make scheduled deliveries to eastern connections. In extreme cases of late arrival, the inspection, classification and delivery have been completed in as short a period as 40 min. Except for hold cars, those going to the l.c.l. transfer and bad order cars, the average time required to pass through this yard is slightly more than two hours. As many as 3,500 cars have passed over the hump in 24 hr., and on occasion as many as 100 cars have been classified in 20 min.

An unusual feature of the operation is that some outbound traffic is classified in this yard. This consists, however, of interchange between the several main lines entering the yard, for example, from the Galena division for points on the Wisconsin and Milwaukee divisions. As soon as these cars are classified they are sent to the outbound yard to be placed in the proper trains. Likewise, cars destined to connections, which originate at the various freight receiving points and industries on the terminal, are brought to this yard for classification.

Regularly scheduled transfer trains are operated between Proviso and the various yards and freight houses which have been mentioned. Likewise, many of the movements in interchange are scheduled, particularly where perishable or other high class lading is involved, to meet the departure schedules of eastern and southern connections. The North Western does not run transfer trains in interchange, however, as the belt lines accept delivery in the forwarding yard. As soon as a train is made up for forwarding, it is checked and the information is sent to the freight office by pneumatic tube. The bills are assembled immediately and sent in the same manner to the forwarding yard, a distance of one mile, for dispatch with the train.

The Outbound Operation

Transfer trains from the various freight receiving points on the terminal enter the outbound receiving yard from the east over a lead from the main tracks of the Galena division. Trains from the Indiana Harbor Belt arrive over the single-track connection which serves that line. As these trains pass the yard office, the bills are delivered and sent to the freight office in the same manner as is done at the inbound receiving yard.

Since no classification hump has been provided for the outbound yard, the classification and make-up of trains is done entirely by flat switching. Owing to the fact that trains are made up in this yard for the

three diverging main lines, the classification yard has been divided into three units, in which a large number of classifications is required. For instance, solid trains for Pacific Coast points are made up for movement over the Galena division. Likewise solid trains are made up for St. Paul and Minneapolis, Milwaukee, Duluth, Omaha and other points, while a great number of classifications are required for intermediate points and diverging routes and for the various classes of traffic which are being handled.

Thirty-one time freight trains are scheduled outbound daily, many of which are operated in two or more sections, while extra trains and slow freights are run as required. Because much of this business must be handled quickly, a large part being manifest loading which is received and dispatched on schedule, the time required for outbound cars to pass through this yard is also very short and compares favorably with the movement in the inbound yard. Obviously, however, since a considerable part of the traffic must be held for scheduled and irregular trains, the average time for passing the outbound traffic through the yard is somewhat greater than with the inbound, although it varies with the character and volume of the business.

The same system of sending the bills to the forwarding yard by pneumatic tubes is in effect as in the inbound forwarding yard, thus saving a long delay in transmitting the bills, as compared to the system of handling them by messenger.

Floodlighting

A floodlighting system of the longitudinal lighting type has been installed in all of the yards. For this purpose 10 towers, ranging from 80 ft. to 120 ft. high, are located to give maximum illumination. From 6 to 10 Pyle-National projectors containing 1,000-watt lamps are placed on each tower. The operation of the floodlighting system is entirely automatic, the timing arrangement for turning the current on and off being set manually according to the season.

Owing to the fact that it was intended primarily for a receiving yard, the facilities for the temporary flat switching of both the inbound and outbound interchange traffic were not as well arranged as are those in the present outbound yard. It is interesting to note, however, that when the inbound classification hump was placed in operation, the number of switch engines was reduced by 15 and this difference has continued to the present.

The capacities of the two primary units of the yard are approximately the same. The hump was expected to have a daily capacity of 3,100 to 3,200 cars. As a matter of fact it has handled 3,500 cars without reaching its capacity. Likewise, the maximum number of cars which have passed through the outbound yard is close to 3,500, these being single count in both cases.

Only slight mention has been made of the engine terminal at Proviso, since no fundamental changes were made in the engine-handling facilities which were already being maintained at this point, which include complete equipment for coaling, watering and housing the locomotives using this terminal. The enginehouse contains 58 stalls, 10 of which have been extended to accommodate large power. A new mechanical cinder handling plant was installed and the original 85 ft. turnable was replaced with a new three point support 110 ft. turntable. The plans for the ultimate development of the yard contemplate a second enginehouse, a coaling plant, a cinder pit and other additional facilities. The supply of water for locomotives was inadequate and this was increased by drilling additional wells, and a water-softening plant was installed to improve the quality of the water.

When Proviso yard was placed in complete operation, the yard at Crawford avenue was abandoned as the main terminal and it is now used as a storage and secondary switching yard. With the relief afforded to the various secondary yards by eliminating the necessity for classification and other switching, the capacity of the entire terminal has been greatly increased. Furthermore, improvements which were needed at many of these points to provide for the more convenient and expeditious delivery of the various commodities have been made possible.

Again, by rearranging the system and schedules of transfers and by other changes in operating methods, which the new facilities have permitted, a more dependable and constant flow of traffic has been brought about, thus reducing the time that cars are detained on the terminal. This improved system of operation has not only expedited the movement of traffic through the terminal itself, but it has also expedited the road movement and has resulted in more economical operation.

The idea of starting this development originated with the late W. H. Finley, formerly chief engineer and later president of the road. The work was planned and executed under the general direction of W. J. Towne, chief engineer. The retarder and signal system was installed under the jurisdiction of J. A. Peabody, signal engineer, and under the immediate direction of S. E. Noble, assistant signal engineer. G. A. Saint, assistant engineer, was directly in charge of all field work. All grading and track laying was done by company forces.

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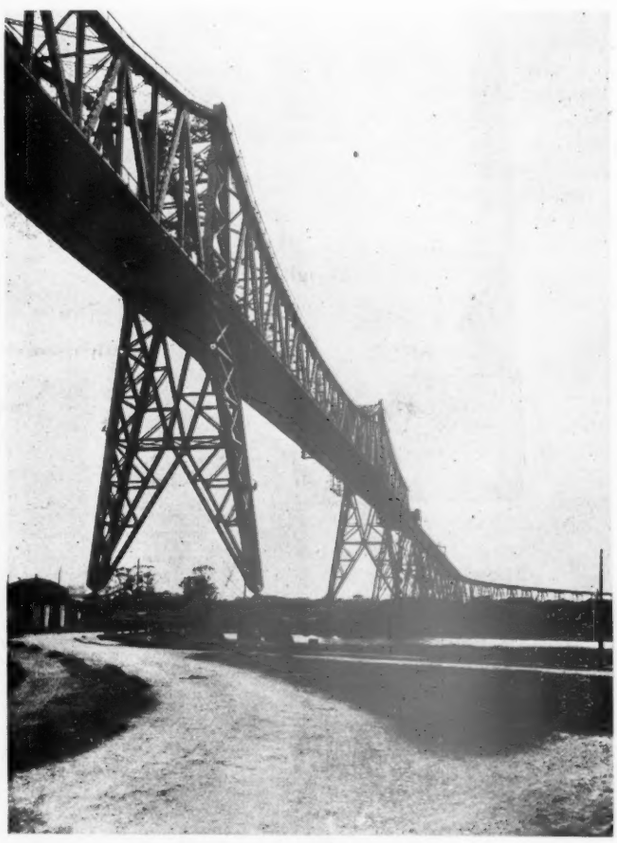


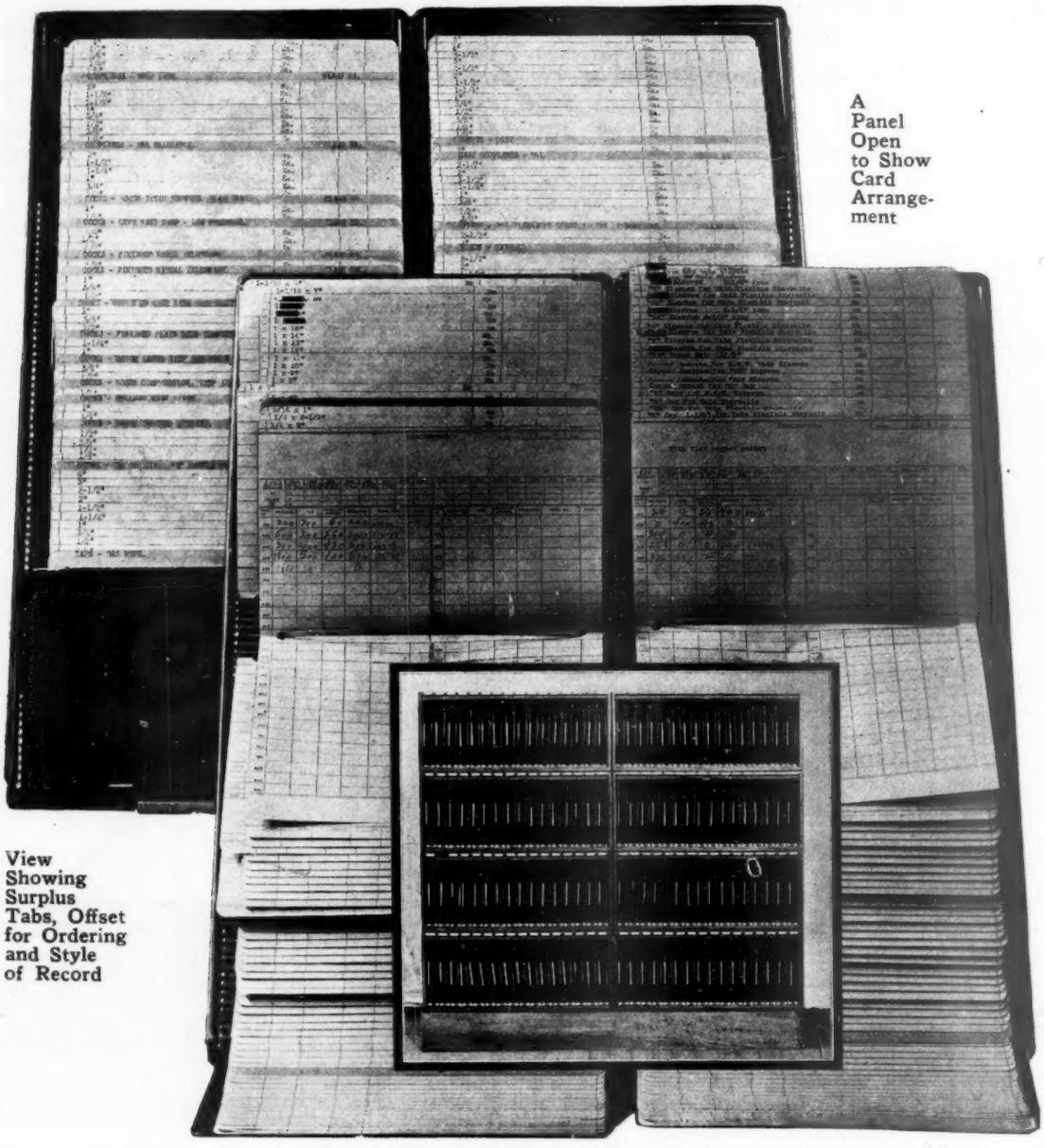
The High Bridge near Rendsburg—German Railways

Lehigh Valley Scraps Its Stock Book

Finds visible cards better adapted than bulky ledgers for controlling supply work

OVER a period of years, the Lehigh Valley has been making extensive changes in its supply department by tearing out the old bins, racks and shelving of its main store at Sayre, Pa., and remodeling the interior along modern lines, also by building certain new stores facilities, rearranging the scrap-handling yard, building concrete roadways and platforms to carry materials, by installing additional automotive equipment for loading and unloading cars and for inter-plant haulage, and by centralizing all the trackless haulage work in the terminal. As a result of the many changes made since 1921, the Lehigh Valley stores are said to be giving the using departments better material delivery service than ever before, in the face of a reduction in the amount of stock carried of approximately 57 per cent and a 35 per cent reduction in forces.

The road enlarged upon these changes last January by discarding the master stock book system, which had been in use for several years, and installing an entirely new system, consisting of visible cards. The new system, which is similar to an arrangement adopted several years ago by the Canadian National but incorporating certain modifications, was described for the first time by C. B. Tobey, general storekeeper, in a paper presented before the annual convention of the Purchases and



A Panel Open to Show Card Arrangement

View Showing Surplus Tabs, Offset for Ordering and Style of Record

Insert Shows a Cabinet of Folded Panels

Stores division of the A. R. A. at Atlantic City, N. J., in June, and published in part in the daily edition of the *Railway Age* of June 19. In view of the revolutionary character of the innovation and the changes it forecast in storekeeping methods, and also since illustrations of the cards have since been made available, the system warrants a more complete description.

Old Method Cumbersome

Some years ago, as explained by Mr. Tobey, the master stock book was adopted by the Purchases and Stores division of the A. R. A. as a recommended method of recording and controlling stocks. At the time of its adoption, it was considered the best known method. The master stock book system, however, was bulky, slow and inflexible. Each year, considerable time, expense and interference with other work were employed in rewriting and changing the record. The system was bulky in that, as the slips received from outside points were added each month, the book expands to a volume 12 in. to 18 in. thick before the end of the year. The transcribing of information contained on the stock book slips from outside points to some other book meant spending a thousand dollars or more per year for a duplicate permanent record, which was of little more use for reference purposes than the stock book slips pasted in a book. The system was slow because it was necessary for the employee taking stock to carry the book around and insert carbon paper between the stock book sheets to produce the record on the stock book monthly slip. It was also necessary to write in at the head of each monthly column the name of the reporting store, the material classification and master stock book page reference.

When received at the general storekeeper's office, it was necesary to sort out the various slips and paste them in the proper space on the proper page in the master stock book. It also took time each day to check all purchase requisitions against the master stock book records to see what material could be transferred instead of being purchased. The system was inflexible in that, in order to have the same item on the same page in each material classification correspond in the master stock books, it was necessary to furnish small division or local stores with hundreds of sheets, although they were interested only in one or two items. It was also difficult to insert in the proper size or numerical order any new items added to the standard stock list without, in many cases, rewriting many of the key sheets. It was necessary for the storekeeper, in going over the stock records to order material to replenish his stock, to thumb each page carefully and check each item to make sure that none were missed.

The New Method

In the visible card stock control system, the stock cards are 8 in. wide by 10 in. long and provide for an eight-year record—four years on each side. They carry spaces for the same information as any other stock record, such as quantities on hand, due, unfilled orders, used, etc. At the top of each card is a description of the item, also the material classification number and the section and the rack in which the material is stored. Spaces have also been provided for unit, quantity, price and amount, so that, if deemed advisable, the annual inventory can be taken on the stock cards and a photostatic copy made of it. The cards are folded and a wire is inserted through the center to hold them.

The cards are placed in steel panels measuring 9 in. by 18½ in., which are hinged to form a double panel or book. Each panel will accommodate 70 wires or stock cards, making 140 to a book. There is a ½-in. space on each panel for use in ordering material. After the stock is counted and the quantity needed to replenish stock is marked on the card, the card is offset ½ in. so that the storekeeper, picking up the panel, can see at a glance just what items are to be ordered.

The stock is taken each month on specified dates by section stockkeepers who insert the quantities on hand, unfilled orders, etc., and also the quantities thought necessary to replenish the stock. Where additional material is needed and the amounts are set down by the stockkeeper, the cards on which it is necessary to order material are offset and the panels sent to the storekeeper for his approval. He then looks over the few offset cards and checks the stockkeeper's judgment on the quantities ordered. After the offset cards are examined and any changes in the quantities to be ordered are made, the panels, with the cards still in the offset position, are turned over to typists to prepare. It is necessary for the typist to consider only the offset cards whereas under the stock book system, it is necessary for the storekeeper or the typist to scrutinize each page and each item to determine which needed attention.

Surplus Materials Exposed

The different classifications and kinds of materials are designated by colored inserts. Provision is also made to designate surplus material, special material ordered on request of some using department officer and not yet drawn from stock, material made obsolete by changes in design or standards and awaiting disposition, and non-standard items returned to store stock for any reason, by inserting various colored celluloid signals which stand out prominently. An orange signal is used to designate surplus material, green signals designate special material not yet drawn from stock, blue signals show material for which disposition is being asked and lavender signals non-standard material. These celluloid signals can be used to designate any conditions desired, which cannot be done readily with the present stock books. On the Lehigh Valley, all surplus material is shipped currently to the general store so that practically all of the surplus material on the road is at one point. If, for any reason, it is necessary to carry any apparently surplus material at line points for protective purposes, the orange indicator is shown on the card and a notation made in the blank space at the bottom of the card as to why it is thought necessary to hold this material at that point.

Cheaper and Faster

With the visible card system, it has been possible to save considerable on the money heretofore expended for stationery in maintaining the stock books, as the present form will last for eight years instead of two. The work of stockkeepers has been lessened by doing away with the necessity of using carbon paper and making a duplicate record and of tearing out the stock book slips and sending them into a central point. Its use has eliminated the maintaining of a master stock book and pasting the stock book slips in it; and has eliminated the necessity of checking requisitions against any central record before placing them for purchase. The storage space needed for stock books has been reduced about 75 per cent; and the time necessary for storekeepers to go over the books, when ordering, and the typists, when writing up requisitions, reduced fully 50 per cent. The system has made available practically at a glance information as to surplus and special material on hand and has sped up all the work from taking the stock to forwarding the requisition to the purchasing agent.

It has been possible to dispense with the services of three employees. This payroll saving, together with the saving made in stationery, account for more than a 50-per cent return on the investment in cards and panels or an annual saving of about $4,500 on an investment of about $8,200.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended July 19 amounted to 928,256 cars, an increase of 12,000 cars as compared with the preceding week, but reduction of 151,712 cars as compared with the corresponding week of last year and of 105,587 cars as compared with 1928. All commodity classifications showed reductions as compared with last year and all except grain as compared with 1928, while all districts showed decreases as compared with both years. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, July 19, 1930

Districts	1930	1929	1928
Eastern	205,628	242,197	231,868
Allegheny	188,812	221,576	208,533
Pocahontas	53,853	60,446	55,267
Southern	117,847	138,109	139,494
Northwestern	144,512	173,462	159,251
Central Western	142,934	162,338	157,332
Southwestern	74,670	81,840	82,098
Total Western Districts	362,116	417,640	398,681
Total All Roads	928,256	1,079,968	1,033,843
Commodities			
Grain and Grain Products	64,156	64,733	55,233
Live Stock	22,351	22,861	23,239
Coal	136,771	151,219	151,454
Coke	8,512	11,883	8,755
Forest Products	42,158	66,743	64,702
Ore	62,009	79,348	64,498
Merchandise L.C.L.	233,131	257,570	255,702
Miscellaneous	359,168	425,611	410,260
July 19	928,256	1,079,968	1,033,843
July 12	915,985	1,066,414	1,024,925
July 5	792,141	911,143	850,947
June 28	936,848	1,096,569	1,003,699
June 21	920,859	1,069,874	987,360
Cumulative total, 29 weeks	25,843,688	27,674,478	27,370,988

The freight car surplus for the week ended July 14 averaged 471,951 cars, an increase of 6,679 cars as compared with the week before. This included 243,982 box cars, 172,440 coal cars, 26,488 stock cars, and 14,946 refrigerator cars.

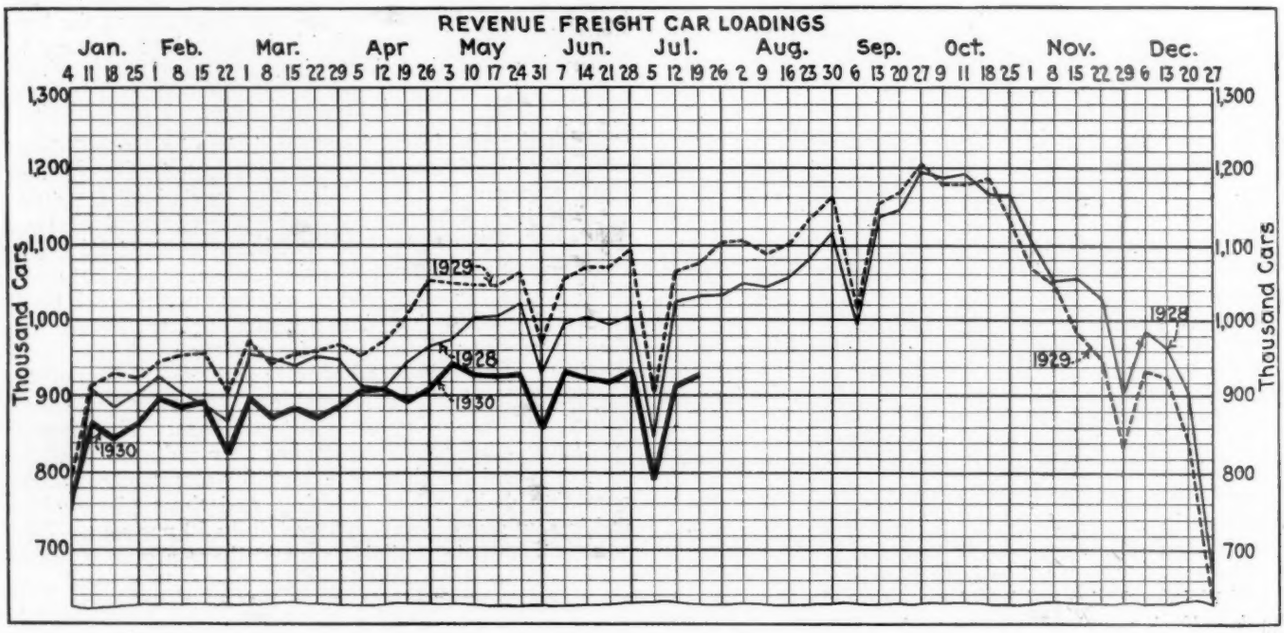
Car Loading in Canada

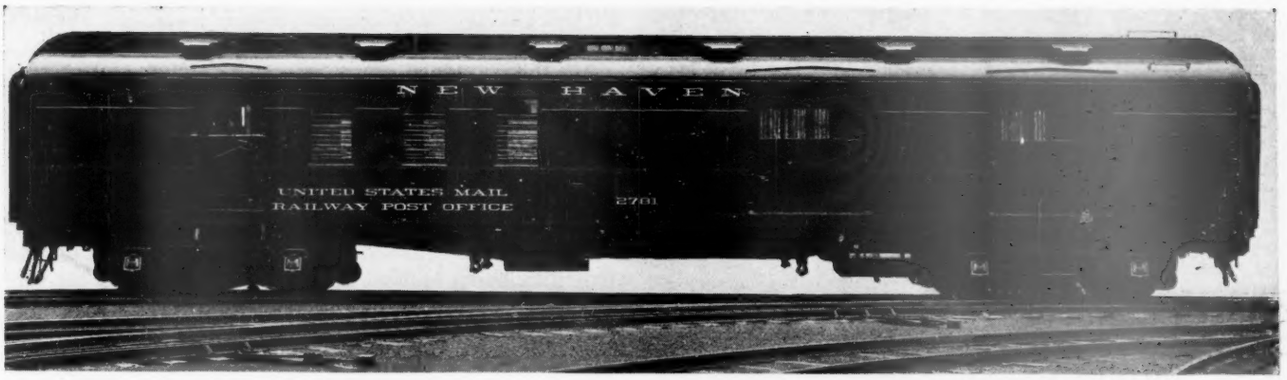
Revenue car loadings at stations in Canada for the week ended July 19 totaled 61,208 cars, an increase over the previous week of 337 cars and a decrease of 10,063 cars from the same week last year.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
July 19, 1930	61,208	29,848
July 12, 1930	60,871	26,898
July 5, 1930	55,015	28,256
July 20, 1929	71,271	37,866
Cumulative Totals for Canada		
July 19, 1930	1,705,806	1,007,507
July 20, 1929	1,914,523	1,219,068
July 21, 1928	1,862,579	1,131,183

AN INCREASE IN PASSENGER FARES on the German National Railways is expected to go into effect, with the consent of the German government, on September 1, according to Modern Transport (London). Financial difficulties are said to render the raise an absolute necessity. Third class fares will be increased from 3.7 pfennigs to 4 pfennigs per kilometer, and first class fares from 11.2 to 11.6 pfennigs, the new first-class fare being equivalent to about 4.4 cents per mile.

SAFETY MEETINGS.—This is the title of No. 8 of the Industrial Safety leaflets issued by the Metropolitan Life Insurance Company, New York. Under 11 heads the pamphlet contains brief chapters telling of what should be done at safety meetings and how best to plan the proceedings. It is recognized that some employees react more quickly to accident prevention efforts when appealed to in the presence of other employees, in a mass meeting, than they do to methods of individual appeal. Employee safety meetings must be full of action and so planned that continuous interest will be maintained. Care must be taken not to hold meetings too frequently. Meetings held on the company's time are often preferable. Different industries often may profitably unite in community safety meetings. Light and amusing entertainment is a valuable means of stimulating attendance, but care must be taken to select features which will not conflict with the spirit and purpose of the meeting.





Sixty-foot Combination Baggage and Mail Car Built for the New York, New Haven & Hartford by the Bethlehem Steel Company

New Haven Baggage-Mail Cars Equipped with Roller Bearings

Fifteen combination baggage and mail cars have been in passenger service for nearly five months

FIFTEEN combination baggage and mail cars, equipped with American Steel Foundries' roller-bearing units having Shafer self-alining roller bearings, were delivered by the Bethlehem Steel Company to the New York, New Haven & Hartford the latter part of February and the first part of March of this year. These cars are reported to have been operating satisfactorily in passenger service since the time of their delivery.

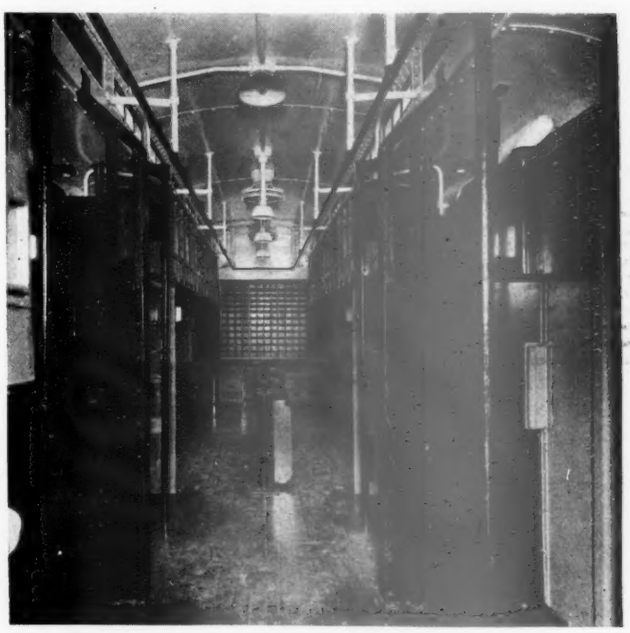
The cars have a length over the end sheets of 60 ft. 11⅝ in. and a width over the side sheets of 9 ft. 10⅝ in. The length over the buffers is 64 ft. 4⅛ in. Ten of the cars have 30-ft. mail compartments and five have 15-ft. compartments for handling mail.

The distance between truck centers is 42 ft. 10 in. Each car is carried on two four-wheel trucks having a wheel base of 8 ft. The wheels are 36 in. in diameter and have 6-in. by 11-in. journals.

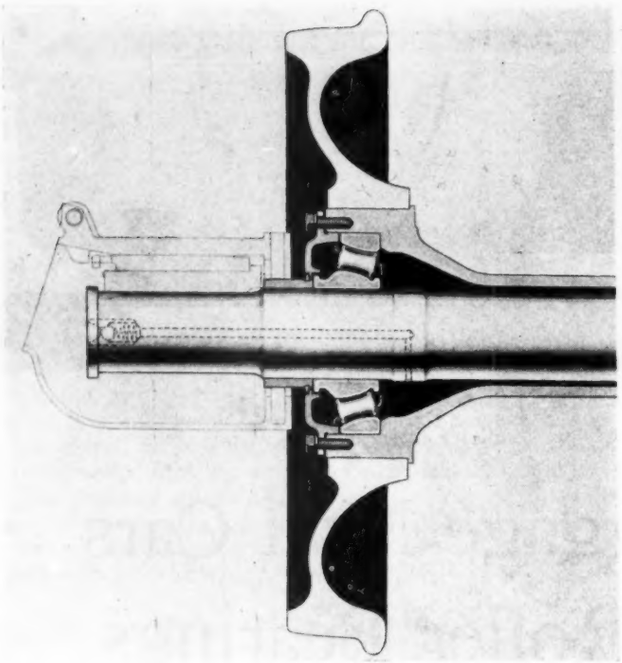
The American Steel Foundries' roller bearing unit with the Shafer self-alining roller bearings used on these cars is shown in one of the illustrations. This bearing unit takes the A.R.A. standard 6-in. by 11-in. journal box and wedge, which is applied in the usual manner. An axle bearer of cast iron, however, is substituted for the standard A.R.A. brass journal bearing, as the axle does not rotate.

The bearings are lubricated through a fitting in the end of the axle. The oil passages through which the lubricant passes to the cavity in the unit housing around the bearings are shown by the dotted lines through the end of the axle. Ordinary car oil is used for lubricating these bearings. An initial charge of about two pints of oil was made at the time the cars were placed in service. It is estimated that this charge of oil will be sufficient for a period of at least six months or approximately 50,000 car-miles. About one-half the initial charge is added each time the bearings are given lubrication attention.

The cars are constructed with fish-belly underframes and have the clerestory type of superstructure. The interiors of the mail compartments are arranged and equipped according to the latest specifications of the Post Office Department. The baggage compartments are finished according to New Haven standard practice.



Interior of 60-ft. Baggage-Mail Car with 30-ft. Mail Compartment



American Steel Foundries' Roller Bearing Unit with Shafer Self-alining Bearings

Each car has cast-steel combined double-body bolsters and platforms, as well as cast-steel end frames. These castings are of Commonwealth manufacture.

The trucks are of the Commonwealth cast-steel frame straight-equalizer type. Draft and buffing gears are of the Waugh type, the couplers and yokes being of cast-steel quadruple-shear design. The cars are equipped with Westinghouse UC type air brakes, and the trucks have the American Steel Foundries' simplex clasp brakes.

End View of the 60-ft. Baggage-Mail Cars with 30-ft. Mail Compartment

All the cars are equipped with Vapor steam heat with thermostatic control. Coal heaters are provided for the five cars having 15-ft. mail compartments, as auxiliary heating equipment. These heaters are located in a corner of the mail compartment at the end of the car. In the opposite corner across the car is a lavatory with a hopper, folding wash basin and mirror.

The cars are finished with Duco, inside and out, the stencilling being applied in accordance with the Post Office Department requirements and the railroad company's standard practice.

Barge Line Granted Certificate

WASHINGTON, D. C.

THE Interstate Commerce Commission has granted the application of the Mississippi Valley Barge Line for a certificate of convenience and necessity authorizing it to operate as a common carrier by water on the Ohio and Mississippi rivers between Cincinnati, Ohio, and New Orleans, La., and intermediate points, and also for the establishment of through rail-barge and rail-barge-rail rates on classes and various commodities between points in central territory and points in southern and southwestern territories on a basis supported by the rail carriers in central territory. The only opposition to the granting of the certificate was that of the Southern Railway, but the rate basis was opposed by shippers at Youngstown, Ohio, the Inland Waterways Corporation, and the American Barge Line, on the ground that it is a departure from the so-called 20 per cent formula originated by the federal barge line and upon which most of its present rates are based.

The Mississippi Valley company has a capital stock of $3,000,000 fully subscribed and plans to increase this by $500,000 in the near future. It has under construction four steam towboats of 2,000 horsepower each with tunnel type screw propulsion and 50 barges each of 300 tons capacity. It also has six 175-ton barges. The company is building a river-rail terminal at Cincinnati at a cost of $400,000 for building and equipment and $130,000 for land, to be completed by August 1 and at New Orleans it will use the public docks. For the present it plans to serve only Cincinnati and New Orleans with a regular weekly service for high-grade as well as low-grade freight. The running time is estimated at 6 days southbound and from 12 to 14 days northbound.

Extracts from the report, by Division 4, are as follows:

Applicant estimates that there is ample potential tonnage in the regions bordering on the waterways which it will use to insure profitable traffic for its service. It refers to a survey made by the United States Department of Commerce in June, 1928, showing potential tonnage of 6,638,766 tons of bulk freight annually between New Orleans and Pittsburgh, Pa., and intermediate points. Nearly half of this consisted of iron and steel products, and much of the remainder was made up of low-grade commodities, such as lumber, coal and coke, brick and other clay products, coal tar and creosote, petroleum products, and ores and concentrates. From the testimony of numerous representatives of shippers who indorse applicant's project it appears that there is likelihood of a substantial volume of southbound tonnage of wrought iron pipe and other iron and steel products originating at Youngstown, Ohio, and other points in the same district; soap, manufactured iron and steel articles, paper products,

prepared roofing and similar commodities, and office furniture from Cincinnati and nearby points; and glassware from Columbus, Ohio. The principal northbound traffic would consist of vegetable oils, sugar, coffee, canned goods, scrap iron, spelter, rags, and waste paper.

It will be noted that the reasons advanced by the Southern against issuance of a certificate to applicant are similar to those usually stressed by rail carriers in opposing the construction of a competing rail line. We are not convinced that they are entitled to the same weight in such a proceeding as this. The title of the Inland Waterways Corporation Act states its purpose to be the carrying out of the mandate and purpose of Congress as expressed in sections 201 and 500 of the Transportation Act.

The procedure set up in paragraph (e) of Section 3, which we are here following, was expressly designed to overcome opposition of railroads to the establishment of rail-water rates. To restrict the benefits of this procedure to such water carriers as could under no condition compete for traffic with existing rail lines would defeat the purpose of the act.

In accordance with our interpretation of the Denison act the evidence received at the hearing was limited strictly to the question of public convenience and necessity. Applicant has outlined its proposal concerning through routes and joint rates in its returns to our questionnaire, and all interested parties have been given an opportunity to file written comments thereon. In addition the subject was discussed in an informal conference following the hearing.

Applicant seeks the establishment of through barge-rail and rail-barge-rail routes via Cincinnati between points in Central territory, including Illinois and southeastern Wisconsin, on the one hand, and New Orleans and points in southern territory customarily served by all-rail routes via New Orleans on the other hand. It also asks us to establish rail-barge-rail routes via Cincinnati and New Orleans from points in central territory east of the Indiana-Illinois line to southwestern points in Louisiana and Texas generally served by all-rail routes via New Orleans. The rates over such routes under applicant's proposal would be based on a differential of 35 cents on first class under the corresponding all-rail rates with rates on lower classes made on the prevailing percentages of first class.

Commodity rates would in general be based on the differential of the nearest class rate, or the lower of two equally near. Fractions would be disposed of in accordance with the usual rule, and 30 cents would be observed as a minimum for barge-rail rates and 60 cents for rail-barge-rail rates. On iron and steel articles and iron pipe moving southbound the differential would be 11 cents under the all-rail rate, and on the more important northbound commodities the following differentials would prevail: Sugar, 10 cents; California canned goods, 9 cents; clean rice 10 cents; coffee, 10 cents; burlap, 8 cents; sisal, 8 cents.

The rail carriers in central territory support applicant's rate proposal. Those in the Southwest have not expressed themselves thereon. Shippers at Youngstown, the Inland Waterways Corporation, operating the Federal barge line, and the American Barge Line Company, an intervener now operating a barge line between Pittsburgh, Memphis, and New Orleans, all oppose applicant's proposed basis of rates on the ground that it is a departure from the so-called 20-per cent formula originated by the Federal barge line and upon which most of the latter's present rates are based. Under that formula the differential is 20 per cent of the all-rail rate between the ports. For example, the first-class barge-rail rate between Chicago and New Orleans is $1.77, 38 cents less than the all-rail rate of $2.15, 38 cents being 20 per cent of the all-rail first-class rate of $1.90 between New Orleans and St. Louis, Mo., the port of interchange with the Federal barge line. Under applicant's proposal the barge-rail rate between Chicago and New Orleans via Cincinnati would be $1.80. Use of the 20-per cent formula via Cincinnati would make a differential of 42 cents and fix the first-class rate via that port at $1.73, 4 cents lower than the rate via St. Louis and 7 cents lower than the rate proposed by applicant. Notwithstanding the fact that applicant's proposal is apparently more favorable to the Federal barge line from a competitive standpoint than the 20-per cent formula applied via Cincinnati, the latter urges that applicant be required to use this formula, which the Federal line has in general adhered to in its negotiations with the rail lines and in proceedings before us. It fears that if a different basis is approved here, a reaction unfavorable to the formula may result and adversely affect its rates.

The American company criticizes applicant's rate proposal on the ground that it contemplates the same differentials at all ports without regard to the relative amount of water transportation involved. We do not understand applicant's proposal as necessarily having this effect. It appears that in the preliminary negotiations between applicant and the central territory rail lines it was agreed that if and when rates and routes were established via Memphis and Vicksburg, the first-class differentials via those ports should be 22 and 30 cents, respectively, instead of 35 cents as here proposed via New Orleans. We are not called upon in this proceeding to prescribe rates over routes via ports other than Cincinnati and New Orleans, we shall not express any opinion as to the measure of rates or differentials via other ports, except to say that it would obviously be difficult to justify any differential greater than the 20-per cent formula would produce.

We do not agree that the 20-per cent formula is so firmly established as a standard basis of differentials that it should be imposed on every new water carrier invoking the provisions of the Denison act regardless of individual conditions and whether or not such carrier desires differentials as high as that formula would produce. In cases involving the Federal barge line we have generally followed the formula, but in some instances we have required a lower basis. It is unnecessary here to discuss the reasons which prompted the exceptions.

Whether or not the 20-per cent formula reflects the difference between costs of rail service and those of barge service as distinguished from value of service, is a question on which little light has been thrown by the records in previous proceedings involving barge rates. Nevertheless the American company suggests that before we accept applicant's proposal in this proceeding we should require from applicant evidence as to the cost of the water transportation which it proposes to furnish. Aside from the fact that, as before pointed out, the law under which we are here operating does not provide for a hearing on the question of the rates to be prescribed, evidence as to operating costs of a water line which is not yet in operation would necessarily be so speculative as to be of little value.

Applicant believes that the basis it proposes will be sufficient to attract traffic to its line and states that if actual experience proves otherwise it will take steps to change the basis. Although its class rates to and from central territory will be slightly higher than those in connection with the Federal barge line via St. Louis, applicant believes that this disadvantage will be offset by the fact that its estimated running time from Cincinnati to New Orleans will be approximately the same as that of the Federal line from St. Louis, and by the further fact that it hopes to afford service which will be superior to that of the latter line, particularly from the standpoint of shippers who are nearer Cincinnati than St. Louis. Moreover, the difference between applicant's proposed basis and the 20-per cent formula is by no means so great as the difference on first-class might indicate. On several of the most important commodities the proposed differentials are the same as would be produced by the 20-per cent formula or vary from it by only one cent. This is true of iron pipe, iron and steel articles, sugar, canned goods, clean rice, coffee, burlap, and sisal, which will probably comprise the larger part of the traffic.

We find no valid reason for rejecting or modifying the rate basis proposed by applicant. The differentials sought appear sufficient to attract a profitable volume of traffic to applicant's line and there is no contention by the rail carriers that the proposed rates would be unremunerative. It hardly need be pointed out that under the Denison Act our approval of applicant's proposal does not foreclose a subsequent consideration by hearing of the reasonableness or lawfulness of particular rates which may be established as a result of this proceeding. The fact that our findings here are made in a summary proceeding without formal hearing deprives them of any important effect as a precedent which in some way might prejudice the Federal barge line and the American company.

We find that within 30 days after the joint rates prescribed become effective, the said common carriers by rail shall enter into negotiations with the Mississippi Valley Barge Line Company for the purpose of agreeing upon equitable divisions of such joint rates; and further, at the expiration of 120 days from the date of publication of the said joint rates, the parties shall advise us in writing as to whether agreement has been reached with respect to such divisions, and if not, the parties shall clearly set forth the rates as to which agreement has not been reached, and shall show the divisions thereof which they consider equitable and their reasons therefor.

THE CANADIAN INDUSTRIAL TRAFFIC LEAGUE has recommended to the government of the Province of Ontario that a department of research on transportation and traffic be established in a provincial university.

Funding Railroad Pension Plans

Reasons for—Advantages and disadvantages of different funding arrangements discussed

By J. C. Clark

Resident Supervisor, Equitable Life Assurance Society

AT the time the first pension plans were started on American railways there was not much information available concerning the subject of industrial pensions. Some of the older railroads at that time were faced with a condition that had to be met and they met it in the best way possible in the light of the information then available but the method of financing adopted has resulted in a constantly increasing cost that has now become a matter of concern to railway management. Research in recent years has shown that the method of determining pension cost prescribed by the Interstate Commerce Commission in its accounting classification is inconsistent and fails to reflect true pension costs and liabilities in the accounts.

Under the Interstate Commerce Commission accounting rules, in effect since November, 1928, a railroad may charge to operating expense amounts paid to pensioners currently, or it may elect to establish a trust fund under a contractual pension plan, in which event it must charge to operating expense "amounts determined through the application of equitable actuarial factors to the current payroll" and, thereafter, charge to an existing reserve, or to profit and loss account, all payments to persons on the pension roll at the time such contractual plan is established. As between these two methods the second would result in a lower aggregate charge to operating expense by reason of the fact that the accumulation of interest on the funds would reduce the charge to operating expense. In the long run the interest may amount to more than the sums contributed by the railroad and charged to operating expenses.

But, in order to take advantage of the second method, the railroad must appropriate from surplus or from an existing pension reserve amounts paid to pensioners on the pension roll at the time the contractual plan is adopted. This is inconsistent because, in effect, it exacts a penalty from the stockholders for handling pension expense accounts in the only way they could have been handled under Interstate Commerce Commission orders from 1907 to 1928. Furthermore, the company that follows the first method, while it will have a much higher ultimate pension cost, will have the advantage of being permitted to charge it all to operating expense.

Only two or three railroads have any pension reserve at the present time. It follows that, with these exceptions, any railroad that adopted the second method would be required under the present Interstate Commerce Commission orders to appropriate from surplus amounts sufficient to take care of the present pensioners. Amortizing the accrued liabilities for the initially existing pensioners, through charges to operating expenses, distributed over a ten-year period, would eliminate this inconsistency. This ten-year period would be about the average expectancy of life of existing pensioners. If the Interstate Commerce Commission should consider this period too short, it might consent to amortization over a period of 21 years, this being equal to the period from 1907 to 1928 during which the railroads were prohibited from funding their accrued pension liabilities through charges to operating expense.

J. C. Clark

Reasons for Funding

The only sound method of financing a pension plan is on a full reserve basis which takes care of pension liability as it accrues and not when it matures. Pension liability accrues during the active service of employees and matures when employees are retired on pension. Under the present practice of charging operating expense only with amounts paid to pensioners, the total charge will increase from year to year for a period likely to be more than 50 years. Furthermore this method does not in the meantime disclose the full financial burden of the railroad's pension plan because the accruing liability resulting from the current service of active employees is not shown in the accounts. Under a full funded plan the charge to operating expense would tend to a constant percentage of the payroll and would represent the full burden of the pension plan after provision is made for persons on the pension roll at the beginning of the funding program. Good accounting practice requires that the accounts disclose, as nearly as may be, all known liabilities. Unrecorded liabilities are misleading to security holders and regulatory bodies.

It has been argued that, under the typical railroad pension plan, there is no legal liability and, therefore, no pension liability should be shown in the accounts. This question cannot be discussed here except to point out that when a board of directors declares its intention to pay pensions under certain stipulated conditions and carries out this intention by actually paying pensions under the conditions stated, a moral liability is created that may well be just as binding as a legal liability.

Complete Funding

In the case of any railroad having an established pension plan there are several factors to be considered when formulating a funding program. The first of these factors is the determination of cost. This may be divided into three parts: First, determining the present value of future pension payments to *persons now on the pension roll.* Second, the present value of that portion of the pension to be paid in future years to *present active employees* on account of service rendered *prior* to the time of installing the completely funded plan. Third, the cost to provide for that portion of the future pension to be paid to *present active* and *new employees* for services ren-

dered *after* the installing of a completely funded plan or determining that cost year by year as such service is rendered.

The next factor to be considered is the distribution of cost in the accounts. The first item of cost mentioned in the last paragraph may be taken care of in a number of different ways. The amount of each pension is already fixed and hence not subject to variation from salary changes or withdrawal rates. The choice of methods of meeting this item will be influenced by the attitude of the Interstate Commerce Commission. As already stated a desirable method would be to distribute this item of cost more or less uniformly over a period of ten years, or more, if the Commission will approve.

The second cost item will be determined as a lump sum but it may be amortized over a period of years and should be charged to operating expense either as a lump sum each month or as a percentage of payroll. The amount charged to operating expense each month would depend upon the period of time chosen for amortization, the amount decreasing the longer the period of amortization chosen.

The third cost item should be determined in the form of a uniform percentage of payroll and charged out month by month as an operating expense, being credited to the pension fund. This percentage charge would be continued as long as the pension plan remains in force, subject, however, to adjustment as changes may occur in the variable factors used in the computation.

Handling the Funds

It is obvious that these three cost items are designed to take care of so-called accrued liability over a period of years and to take care of current liability as it accrues. The three items together will produce a larger amount than that currently paid to pensioners and a reserve fund is thus created. The next step is to determine how these reserve funds should be handled. In considering this matter there are several definite requirements to be examined. In the first place the method chosen should correctly exhibit the cost of operation arising from the pension plan and should conform as nearly as may be to the theory of accounting adopted by the Interstate Commerce Commission. In the second place the method chosen should permit of full deduction of pension costs from net income for income tax purposes. Third, the method chosen should give as great assurance as possible to the officers and employees that they will receive their pension undiminished and for the whole of life in accordance with the pension rules after they have been retired.

Because of the large amount of funds involved the railroad company may consider it necessary or advisable to employ a method of handling pension funds that will enable it to retain a substantial part of these funds in its business. Another consideration would be the advantage derived by placing, at least a part of the funds, with an insurance company in order to make available the actuarial and other expert service that insurance companies are equipped to provide. There is an enormous amount of actuarial work necessary properly to install and administer a funded pension plan. The life insurance business is based on actuarial science and the leading insurance companies are better equipped than any other agency to handle problems of this kind. Life annuities or pensions are simply a branch of the life insurance business.

In view of these requirements, what is the best method of handling pension funds? If the railroad company handles its pension fund as a reserve on its own books, only one requirement will be fulfilled; i. e., that of using the funds in its business. If the railroad company places the pension fund in the hands of trustees for the sole benefit of the employees, the situation would be greatly improved but there would be no guarantee that pensions in full would be paid and the actuarial service of life insurance companies would not be available.

If the funds were placed in the hands of an insurance company under a contract that would guarantee pension payments either on a deferred or an immediate annuity basis, all of the requirements would be fulfilled except that the railroad company would not be able to use the funds in its business except as the insurance company might invest them in the securities of the railroad.

This consideration is so important that a fourth method of handling the funds has been suggested. Under this fourth method immediate annuities would be purchased for employees at the time of retirement and funds accumulated during the active service of employees would be handled by a trustee under a trust agreement that would permit the railroad to borrow this part of the funds for use in the business. At the time of retirement a sufficient amount would be taken from the trust fund handled by the trustee to purchase the annuity from the life insurance company. This fourth method fulfills all of the requirements stated and while it is, perhaps, not ideal, it is reasonably safe and practical and can be employed with considerable advantage to the railroad company.

Partial Funding

It is obvious that to establish a completely funded pension plan at one step would involve such a large increase in the charge to operating expense that it could hardly be accomplished. In the case of a railroad that has operated a pension plan on the unfunded basis for a number of years, a program of partial funding is a step in the direction of sound financing and may be the most logical course to pursue. The object to be attained by partial funding is to wipe out or fund the accrued liability step by step instead of doing it all at once.

Although any one of several methods might be employed, one good method, in view of the circumstances surrounding railroad pension plans, would be to currently purchase immediate annuities at the time of retirement for all employees retired under the plan. This method may also include the financing, on an annuity basis of all pensions previously granted. The essential feature is to prevent any additions to the existing pension roll on the cash disbursement basis. If there are no additions to it, the existing pension roll will gradually be eliminated through deaths or it may be more quickly eliminated by the purchase of annuities under a budget worked out with actuarial assistance.

There are only two elements in the cost of partial funding. The first is the cost of annuities purchased for employees currently retired and is determined by the number of retirements and the annuity rates used. The second element of cost is the payment of pensions directly to the survivors of pensioners on the roll at the time the plan was adopted. Obviously this latter element of cost will constantly decrease and will disappear when the old pension roll is eliminated.

The distribution of these two elements of cost should be controlled by a budget that may be de-

termined on the yearly basis or for five-year periods, based on actuarial computations. It would, perhaps, be feasible to work out a ten-year budget but the longer the period of time selected, the greater the inaccuracies are likely to be, especially in the latter part of the period.

There are three methods that might be employed for handling the funds. The railroad company might set up reserves on its own books. It might place the funds under a trustee for the sole benefit of the pensioners, or it might purchase immediate annuities from an insurance company. If the first method is adopted, it means that the railroad is going into the life insurance business—a highly technical and specialized undertaking. Group annuities and pensions are probably the most complicated branch of the life insurance business and require the most expert of actuaries for proper handling. Consequently this method should not be adopted without careful consideration and preparation. To pursue this method with financial safety and stability, it would be necessary to create an organization similar in function to that of the actuarial and accounting departments of an insurance company. It is the same old question as to whether the railroad should build its own locomotives or buy them from an outside concern that is specially equipped to build them. The adoption of this method would not relieve the railroad of pension liability since it would still be responsible for the solvency of the fund.

If the second method is adopted the fundamental situation is changed but little. The fact that the fund is trusteed may and probably will enhance the feeling of security on the part of the beneficiaries. But this is more psychological than real because trusts of this kind are always revokable. The trustee would invest the fund which might or might not be advantageous. Otherwise the railroad would have the same work and the same responsibility as under the first method.

If the third method is adopted the insurance company would do the actuarial work, keep the necessary records and most important of all guarantee the solvency of the fund which relieves the railroad of all liability upon payment of the stipulated premium. If the mortality rate is more favorable to the railroad than expected, a dividend is paid. Under this arrangement it is believed the net cost to the railroad would be lower than under any other method.

The method of partial funding described in the foregoing paragraphs should be considered only as a step preparatory to a full funded plan. The cost of carrying out the partial funding program should be budgeted as a fixed amount each year until such time as the pension roll in existence at the beginning of the program is eliminated through the purchase of immediate annuities or death. When this point is reached the complete funding program, which provides for the cost as a constant percentage of payroll, should be started. If the partial funding program is extended beyond this point the trend of cost either yearly or by periodical increments will be upward for a long but somewhat reduced period of years, and will bear no fixed relationship to payroll.

Income Tax

It is necessary to say a word regarding income tax. Section 23 of the 1928 revenue law provides that contributions to a pension trust fund may be deducted from gross income in a certain way and rather clearly implies that unless the pension fund is trusteed contributions to it will not be allowed as deductions. This implication is strengthened by the decision of the Board of Tax Appeals in the case of Hibbard, Spencer, Bartlett & Company rendered in November, 1926.

However, Section 23A of the same Act states that all ordinary and necessary business expenses paid or *incurred* during the taxable year are deductible, subject to certain restrictions relating to the method of accounting used. Under this section it would appear that all pension expenses (liabilities) that actuarial calculations show accrued under the pension plan during the taxable year are deductible whether the fund is trusteed or not. Apparently no decision has been rendered on this point under Section 23A.

Up to the present time the Internal Revenue Department has refused to allow contributions to pension funds as deductions from net revenue for income tax purposes unless the funds are trusteed. There is a case pending, however, in which the taxpayer is contending that such contributions are deductible under Section 23A whether the funds are trusteed or not. If this case should be decided in favor of the taxpayer it would appear that all four methods of handling pension funds described in this paper would be on the same plane in so far as income tax is concerned.

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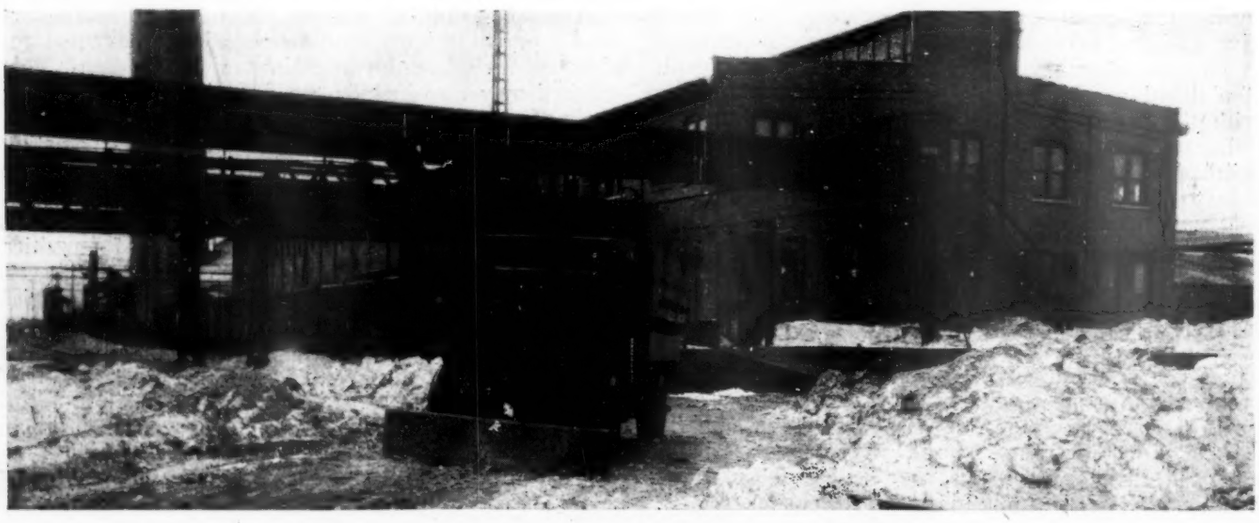
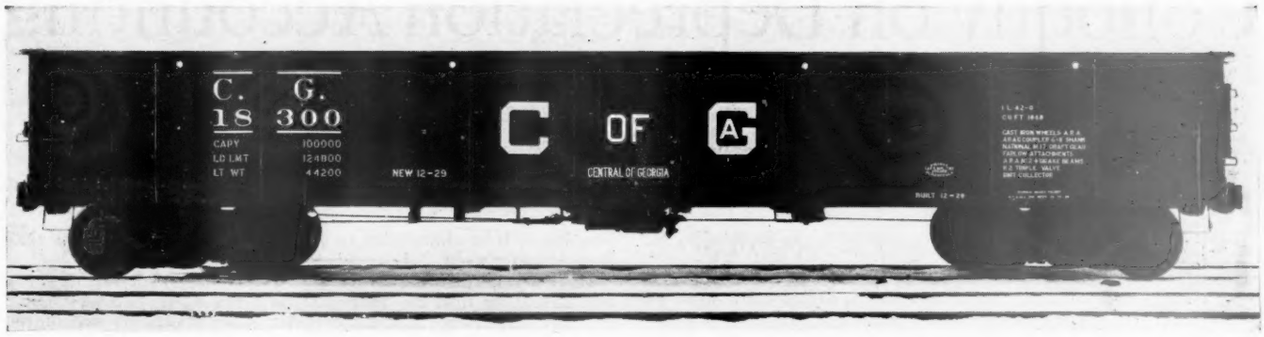


The General Storehouse of the Illinois Central in Winter



Fifty-ton Gondola Car Built for the Central of Georgia by the Pullman Car & Manufacturing Corporation

Fifty-Ton Gondola Cars for Central of Georgia

Built with holes in the sides to facilitate loading and towing staples under the side sills

THE Central of Georgia has had in service since the first of the year 500 all-steel solid-bottom gondola cars in the construction of which several features to facilitate the loading of cars and the towing of cars around manufacturing plants have been incorporated. These cars, which were built by the Pullman Car & Manufacturing Corporation at its Bessemer, Ala., plant, have an inside body width of 9 ft. 5⅛ in. and an inside length of 42 ft. The height of the sides, inside, is 4 ft. 8 in.

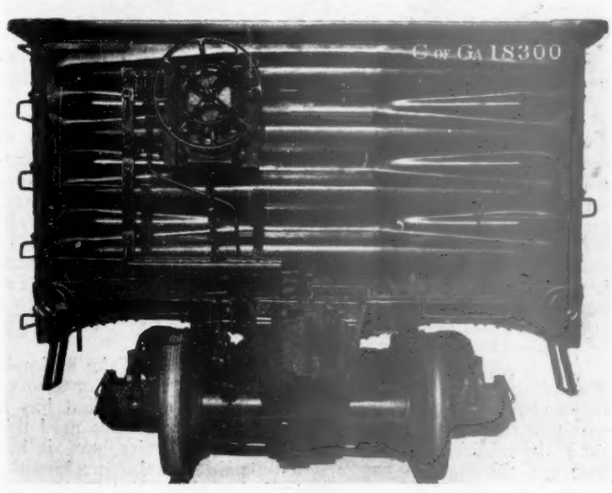
It will be noted from one of the illustrations, that there are four holes in the side of the car directly under the top side angle. These holes, which are 2½ in. in diameter and are reinforced with 5/16-in. plates, are for tying chains and ropes to facilitate loading. Loggers and other shippers handling heavy material at improvised loading points frequently cut holes in the cars in which to tie chains or ropes when loading the cars. Since these cars were placed in service, the railroad has received sufficient favorable comment to incorporate this feature in the design of gondola cars and recently duplicated the first order of 500 cars. It now has a total of 1,000 gondola cars provided with loading holes now in service.

The size and location of these holes also permits their use in securing loads; such as large pipe, logs, timbers, etc., in accordance with the A. R. A. loading rules. The two holes in the center can also be used to secure the ends of the bearing pieces under multiple loads to the sides of the car, thus insuring greater rigidity.

In addition to the four loading holes in each side of the car, forged towing loops or staples are riveted to the under side of the side sills about 3½ ft. from each end. These staples were applied after the first order of cars were built and do not appear on the car shown in the illustration. They are forged from 1¼-in. round stock with a loop of about 3-in. radius, inside, and each one is secured to the side sill with four rivets. This location of the staples places them near the center of the trucks.

The railroad has requested its shippers to use these staples in towing cars about their plants instead of fastening chains to steps, grab irons and other fixtures. This feature, it is believed, will eliminate considerable damage to the safety appliances which have been commonly used for towing purposes.

These cars have a capacity of 100,000 lb., a load limit of 124,800 lb. and a light weight of 44,200 lb. The cubic capacity, level full, is 1,848 cu. ft. and 2,300 cu. ft. when heaped. The wheels are of cast iron, 33 in. in diameter and have 5½-in. by 10-in. journals. Farlow-National M-17 type and Cardwell G-25-AA draft gears are applied to 400 and 100 cars, respectively. The trucks are Dalman cast-steel design, with Q & C side bearings.



End View of the Central of Georgia 50-Ton Gondola Cars

Colloquy on Depreciation Accounting

Comptroller of Manila R. R. takes sharp issue with Railway Age view, which, however, is unshaken

IN the *Railway Age* of January 25 appeared an editorial on accounting for depreciation in which we disagreed with the position taken by Commissioner Eastman in his proposed report providing for depreciation accounting. The kind of accounting proposed by Commissioner Eastman we characterized as, in our opinion, economically and legally unsound. Some time after the appearance of this editorial we received a letter from C. D. Crandall, comptroller of the Manila Railroad, in which he ably and at length took issue with our opinion on this subject. As a contribution to the general discussion of this important question, we are publishing herewith virtually in its entirety Mr. Crandall's letter, together with a statement in reply to it.—THE EDITOR.

Mr. Crandall's Letter

MANILA, P. I.

TO THE EDITOR:

I have just finished reading your editorial "The Proposed Depreciation Policy" appearing in the January 25 number of your magazine. You contend in substance for the retention of the "replacement" accounting in preference to the "depreciation" accounting, because in your opinion "replacement" accounting is based on facts, while "depreciation" accounting is based upon assumption. Under the present classifications there is very little "replacement" accounting permitted.

As a practical matter, the capital accounts of carriers cannot be based upon the value, as distinguished from the cost, of the items of property they represent. If a carrier could be compelled to confine the charge to be made in its capital account to the value of the property regardless of the fact that it had paid more, it would likewise follow that the carrier might also charge to its capital account an amount which would equal the value of the property where the carrier had in fact paid less, and since value generally depends upon the opinion of the evaluator, the result would be to render absolutely worthless for any purpose the capital accounts of the carriers.

If a carrier should always pay in money for the common-carrier facilities purchased by it and charge to its capital account only the money so expended, and should credit to this account the amount paid for property retired from time to time, the total of the capital account at any given date would be the same as the sacrifice made by the carrier to that date in connection with property then used by it for common-carrier purposes, that is to say the same as the original cost to date of said property as I understand that term is used in the valuation act.

Original Cost or Replacement Cost?

You speak of two ways of making charges to operating expenses for the replacement of property worn out or which has become obsolete. The two ways you mention not only involve a difference in the time the charge is made, but according to your conception, also a difference in the amount charged to operating expenses. Under any "depreciation" plan of accounting it is the endeavor to make the charge currently based on the cost of the property in service, while under any "replacement" plan the charge is postponed or deferred until the property is retired; but under the plan you advocate instead of charging the cost or amount expended for the property which has been worn out in performing the service, to operating expenses, you would charge the cost of the newly acquired property, which has at the time the entry is made never seen a day of service, to operating expenses.

This it seems to me is fundamentally wrong. Take a simple illustration. You buy an automobile. You use it for two or three years and then trade it in on a new car. What has it cost you for transportation during the time you have used this car? In addition to gasoline, lubrication, repairs, etc., it has cost you the amount you originally paid for the car less the amount you were allowed as its trade-in value. Not the amount paid for the new car, which replaced the old one, because at that time the new car has never been used. The cost of the new car will be chargeable to your future travel during the time it is actually used.

If you recorded the exact cash expended from the day you purchased the first car until you disposed of it, you would find that the expenses determined under such a plan of accounting would exactly balance with the amount spent. There is no misstatement in this plan of accounting for the use of the funds, they were applied to the precise purpose for which they were expended.

Therefore, it is not the cost of the property which is purchased for replacement, but the cost of the property which was worn out in performing the service, which should be considered in determining the cost of performing any service. Accounting is the recording of facts. And this it seems to me is so clearly what has transpired, that any other method of accounting will not square with the facts.

Now the purpose of depreciation accounting is to anticipate the loss on retired property by creating a reserve during the life of the property by current charges to operating expenses (out of earnings) to meet such loss when the property is retired. That is, the provision for depreciation is intended to mitigate the effect of charging an unduly large amount for abandoned property to operating expenses in the year in which the property is retired and to spread this charge over the years during which the property was in service.

The Function of the Capital Account

The capital account is intended to represent the cost of the railroad property. Every item of cost in constructing the permanent railroad and structures connected therewith should be charged to this account. The total charge will then show the entire investment. However, when there are withdrawals or abandonments of parts of the railroad or structures, the cost of the parts so abandoned should be credited to this account, thus the balance of the account at any time will show the true cost of the railroad and structures existing at the time the balance is struck. (29, I.C.C. 510).

To maintain integrity of this account and show the total of the investments and withdrawals and a true balance, the cost of all abandonments, those not replaced as well as those occasioned through replacement, must be credited at cost to the capital account. At the same time the cost of new improvements must be added to the account and in this way a complete record of all transactions is kept, and a balance at any time gives the true cost of the property then operated.

The replacement of roadbed and structures, good of their kind, is occasioned by the inadequacy of such roadbed and structures to serve their purpose satisfactorily. This inadequacy is one form of depreciation and all depreciation is chargeable to operating expenses.

A railroad property should be kept up to the standard of efficiency that will enable it to meet all normal and constant demands on it. Losses of old property and equipment occasioned by meeting this efficiency demand in installing new equipment or constructing new parts, ought to be charged to operating expenses of the years during which the property or equipment was in service and should be borne by the current revenues before a true surplus can be determined or dividends can be declared.

In considering net revenues, as a fact in determining the reasonableness of rates which the public should pay, only the true balance, above described, should be taken into account.

You and those whom you mention as counsel and witnesses for the railways assail this particular method of depreciation accounting and claim that replacement accounting is preferable because the exact amount of the loss can only be determined at the time of replacement.

In *Illinois Central R. R. Co.* v. *Int. Com. Comm.*, 206, U. S. 441, the court speaking through Mr. Justice McKenna expressed itself regarding charges to operating expenses, and in discussing the question whether it was proper to make the charge in a single year, the court said:

"It would seem as if expenditures for additions in construction and equipment, as expenditures for original construction and equipment, should be reimbursed by *all of the traffic they accommodate during the period of their duration*, and that improvements that will last many years should not be charged wholly against the revenues of a single year" (p. 462).

Referring to the interests of the shipper, the court said:

"His right is immediate. He may demand a service. He must pay a toll, but a toll measured by the reasonable value of the service. The elements of that value may be many and complex, *not always determinable, as we have seen, with mathematical accuracy,* but we think it is clear that instrumentalities which are to be used for years should not be paid for by the revenues of a day or a year; and this is the principle of returns upon capital which exists in durable shape." (P. 463.)

[Mr. Crandall here outlined the development of railroad accounting under the collaboration of railroad accounting officers with Professor H. C. Adams, who headed the bureau of accounts of the Interstate Commerce Commission.—EDITOR.]

Two Extremes, Both Evil

With regard to capital expenditures, it was found there were two evils existing in railway accounting which, in view of the public interest, required attention. These accounting evils reflected the business policy of two classes of roads, and may be stated generally as follows:

1. The more prosperous roads were charging into operating expenses large sums of money expended for improvements and betterments, which should have been charged to capital account. The object in making these charges to operating expenses was to justify and maintain high rates by keeping the net revenues as low as possible.

2. The poorer roads anxious to borrow money upon their assets, were retaining in the capital account large items representing property which had been worn out or abandoned, thus creating a false statement of existing assets.

It was the Commission's desire to make the accounts show every transaction and the true cost of every railroad *as operated* at any given time. The capital account should represent the additions and withdrawals. It should give a full and complete record of every transaction, whether it be an addition, an improvement, or whether it represent the withdrawal of the cost of abandoned property. The balance of such an account at any given time should show the actual cost of the property *then existing;* not the cost of something that had existed in the past, but the value of the *property existing and in use* at the time the balance is struck. To omit charges that should be made to this account, by charging the items to operating expenses, or to fail to credit the account with the cost of property retired and abandoned, destroys the integrity of the capital account.

The public is interested in having good and efficient transportation service which requires up-to-date facilities. Improvements, therefore, are for the benefit of the public and should be encouraged. By treating the net cost of abandoned property as depreciation and making provision for its retirement by current charges to operating expenses, the net revenues are thereby decreased, and this fact tends to prevent the forced reduction of rates until the cost of the property has been earned.

The cost of a railroad, and its cost kept accurately up to date by proper charges and withdrawals from the capital account, has a real and substantial relation to and connection with the *cost* of the transportation which is to be regulated. In this matter the Commission should not be controlled or restricted in its endeavor to make these public accounts truthful in every respect and free from any accounting method that will tend to deceive the public. The failure to charge currently to operating expenses all items of depreciation is condemned by all eminent authorities on accounting.

According to my understanding of the language in paragraph 1 of Section 20 of the act, the purpose manifested by Congress is to clothe the Commission with power which will enable it to compel common carriers to so keep their accounts that they will at all times speak the truth concerning the sacrifices made by the carriers in equipping themselves to serve and in serving as transportation agencies the general public.

One of the specific requirements of Section 20 is that the annual report shall state the cost of the railroad. This is an *annual* report, and is made to show the conditions existing *at the time the report* is made. It is not to be the cost of a railroad which the carrier operated in some former year, but the cost of the railroad operated by the carrier during the year covered by the report, the cost of the physical structures, tracks, equipment, etc., then operated and which can be inventoried. Abandoned or retired property no longer in use cannot be inventoried for valuation. It seems to me there should be no question in the mind of any unprejudiced person that the cost of property which has been retired and is no longer in use, has no place in the capital account.

What the Commission Proposes

How to dispose of this charge equitably to the owners and the public is the question before the Commission. It proposes to solve it by requiring that the cost less salvage of all retired property shall be charged as depreciation to operating expenses, such charges to be distributed or spread over the life of the property, that is during the time the property is used in performing the transportation service. The effect of this is to increase the operating expenses for the period of years over which the charge is spread, and thereby maintain rates which will enable the carrier to pay for such abandonments out of its operating revenues. The cost of the abandoned property having been deducted and the cost of the new property having been added, the capital account represents the cost of the property actually in use. The cost of property installed to replace property which is no longer adequate for the service, will be taken care of out of the revenues of the future during the time the property is used to serve the public. It is an equitable distribution of the burden between the carrier and the public; a distribution justified by the interests of public and carriers.

Before closing I wish to mention one other matter. You cite, as an example, a bridge which has an estimated life of 100 years and ask if one half of its service life was gone before making any provision for depreciation, whence at the termination of its life would be derived the other half of the money required to replace it?

The present accounting rules require a carrier, in such a case, to deduct from or credit to the capital account the cost of the bridge retired and concurrently charge such cost less salvage to operating expenses; the entire cost of the new bridge, constructed to take its place being a proper charge to capital account. The accounts so stated will show the cost of the property actually operated at any time.

The proposed rule of the Commission to which you refer rests upon the theory that the other half of the money required for retiring the old bridge is represented in the carrier's profit and loss account. Such a rule is now in force with respect to the retirement of rolling stock and has been since the accruing of depreciation on equipment was made mandatory.

To make the matter clearer, suppose a carrier has a branch line and finding that the branch is not profitable, it is abandoned, the track is removed and the territory is not served by the carrier thereafter. That line has ceased to be an earning instrumentality. Nothing will accrue to the stockholders in the future because of it. It has served its purpose and only past operations have benefited. Any profits from past operations, not distributed to the stockholders, are represented in the profit and loss account. Therefore, this abandonment or depreciation, unless it has been anticipated by establishing a depreciation reserve for that purpose, has to be charged to the accumulated profits which have been earned during the period of its operation.

C. D. CRANDALL,
Comptroller, Manila R. R.

A Statement in Reply

In the following is set forth a further defense of replacement, as opposed to depreciation, accounting, which in the editor's opinion, amply shows why the *Railway Age* cannot accept Mr. Crandall's viewpoint.

The owner of a bond has property rights in money. If the value of money declines so that a given quantity will purchase fewer commodities, then the bondholder will suffer. If the value of money appreciates so that a given quantity will purchase more commodities, then the bondholder will benefit. A stockholder, on the other hand, has no claim upon money but only upon property. If his property declines in monetary value he loses; if it appreciates in monetary value he gains. The point is that ownership of property is quite as real and as sacred as ownership of a monetary claim. The owner of property is as much entitled to the maintenance of the integrity of that property as is the owner of the bond entitled to the maintenance of the integrity of his monetary claim.

The integrity of property is secured in two ways—by physical maintenance and by the provision from current earnings of a fund which will permit its replacement when its service life is ended.

Let us suppose an apartment building of a presumptive service life of 25 years, bearing in mind that the owner of this building has a claim on the integrity of property—not a monetary claim against it or another person. His ownership is in physical assets rather than money and it is physical assets which he must maintain if his proprietorship is not to be dissipated. Suppose,

further, that this apartment building cost originally $25,000, but that at the time of its retirement $50,000 would be required to replace it. If the owner had set aside each year $1,000 for depreciation, he would find himself at the time of retirement with but half as much physical property as he started out with. In other words, he would not have enjoyed the ownership of the property at all but only that of a claim to the dollars and cents value of his original investment. If the owner of improved real estate should make no better provision for depreciation than this, he would be subjecting himself to all the disadvantages of a bondholder (i.e., owning only a monetary claim) without any of the advantages (i.e., priority of claim on earnings and assets) of such investment.

The plain fact is, however, that the ownership of property differs from the ownership of evidences of indebtedness. Each has its advantages and each its disadvantages and it is eminently unfair to ask a property owner to assume the risks of such ownership while withholding from him the natural advantages thereof.

The position taken by our correspondent, if we understand it correctly, would defend the claim of the railroads in the dollars invested in their business but not in their ownership of the property itself. This might be very fair if they were operating under a guaranty which would under all fluctuations in the value of money protect their original investment in dollars and cents. But the railroads have nothing but their ownership of property to protect their investment. Even if, on a rapidly declining price level, rates should be granted to them on a basis of investment in dollars and cents made at a higher level of prices, there is no guarantee that competing forms of transport would permit them earnings on such a basis.

Cost of Replacement Ascertainable Only When It Takes Place

It is perfectly true, as our correspondent says, that depreciation, ideally, should be accrued over the years of service life and not charged up alone to operating expenses in the year of actual replacement. As a practical matter, however, since a railroad is such a large undertaking comprising such a multitude of physical objects, some of which must be replaced each year, the effect of yearly depreciation charges is secured without the accounting burden by charging currently to maintenance expense the cost of replacements. Furthermore, bearing in mind that it is the *property*, rather than the dollars and cents investment, to which railroad owners must look for their security, it is necessary to charge to operating expenses the actual cost of replacement, and this can be determined only at the time actual replacement takes place.

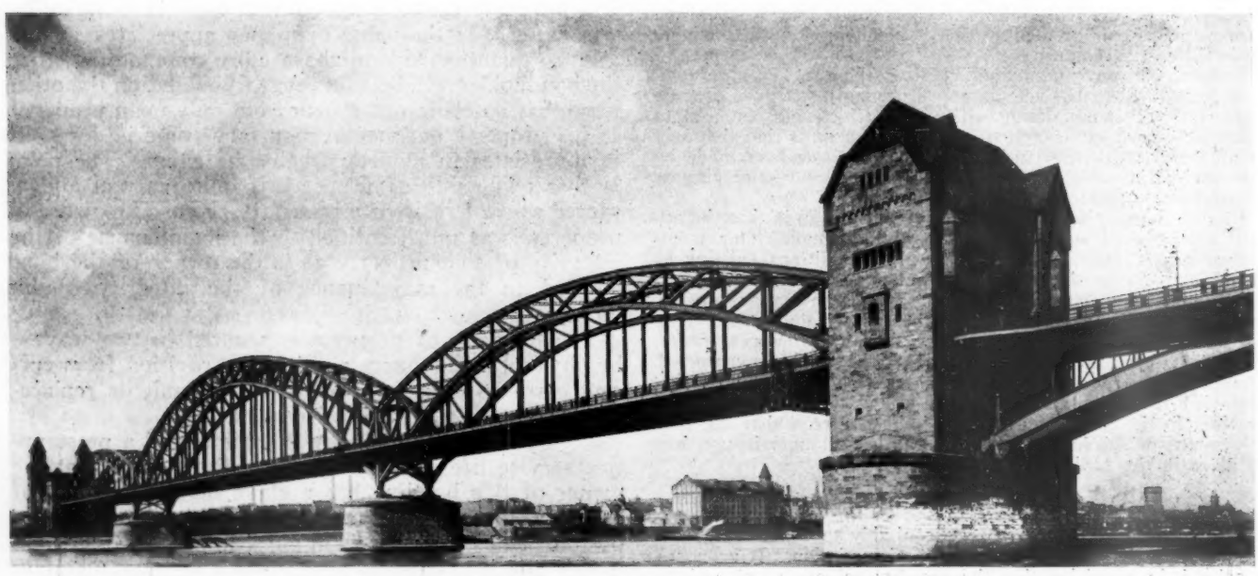
Our correspondent believes that depreciation should be charged only on the basis of original cost and that when replacement occurs on a higher price level the excess of the cost of the new facility over the one replaced should be charged to capital account. It is true that such accounting would tend to keep the capital account more nearly in line with actual investment in dollars and cents. On the other hand it would tend to inflate this account in a time of rising prices to an extent which might well prove embarrassing when prices began to decline. It would virtually mean the capitalization of increased reproduction cost. While railroads are entitled to a consideration of reproduction costs in the fixing of rates, it does not follow that such increment should be capitalized. Indeed, if reproduction cost were capitalized to the full at a time of high prices, the incidence of a period of low prices would certainly bring financial embarrassment and confusion.

The Interstate Commerce Commission has failed in its duty to provide a rate basis to yield a fair return on the present conservatively stated capital account. What would the rate of return be if the capital account were written up in the manner Mr. Crandall suggests?

Capitalization and Valuation Should Not Be Confused

Capitalization must not be confused with value for rate making purposes. The latter should give due consideration to reproduction costs, but the former, if a conservative financial structure is to be maintained, should not. It should represent the cost of the investment at the time it was made and this investment should be kept physically intact regardless of its fluctuation in monetary value. To confuse ownership of property with ownership to a claim to money is to misunderstand the fundamental economic and legal difference between stockholders and bondholders—their rights and their responsibilities.

* * * *



The Bridge Over the Rhine at Cologne, Germany

Western Grain Rates Reduced

General readjustment prescribed by I. C. C. after investigation under Hoch-Smith resolution

WASHINGTON, D. C.

A GENERAL revision of the grain-rate structure throughout the western district, from that district to all ports of export, and from Lake Erie ports to Atlantic ports, representing on the whole substantial reductions on both wheat and coarse grains but including some increases, to become effective on October 1, was prescribed by the Interstate Commerce Commission in a report and order made public on July 25 (dated July 1) in Part VII of its general rate structure investigation undertaken in 1925 under the Hoch-Smith resolution. Commissioner Woodlock, who objected to the rates prescribed as too low, said they would involve a reduction of at least $15,000,000 in the revenues of western carriers, perhaps more, and that the loss will fall most heavily upon roads in the Southwest and the Pacific Northwest that will derive no benefit from the revision of Western Trunk Line class rates. The commission had estimated that the class-rate revision might increase the revenues of the Western Trunk Lines by $10,000,000 or $12,000,000 a year. The majority report gave no estimate of the effect of the grain-rate order.

Although the investigation was instituted in response to a mandate of the Hoch-Smith resolution the commission was careful to insert a statement in its report that its findings were made under the provisions of the interstate commerce act, and it called attention to the decision of the Supreme Court of the United States, which came out while the report in the grain rate case was under consideration, interpreting the resolution as setting up no standard of reasonableness of rate level or relation other than that which is already provided by the act.

A review of the testimony relating to the depressed condition of agriculture is included in an appendix. The report says: "It is sufficient to say here that while conditions affecting the grain farmer had been improving within the few years immediately preceding the hearings herein there is still depression in the grain industry."

According to a press statement issued by the commission in explanation of its voluminous report:

"The general effect of the revision is to make one rate applicable on both wheat and coarse grains and their direct products such as flour and meal, for both domestic and export shipment, made exclusively on the rate-break basis through primary markets from which there are proportional rates, with the consequent elimination from such markets, on shipments stopped there, of transit balances less than the proportional rates.

"The prescribed rates represent on the whole substantial reductions on both wheat and coarse grains. Some of the wheat rates from North Dakota are increased. Coarse-grain rates from North Dakota and Minnesota are increased, from Iowa and Missouri both increased and reduced, and from South Dakota, Nebraska and Kansas substantially reduced. Substantial reductions are made in the flat rates to the primary markets, to the Gulf ports (on both domestic and export shipments), and in the Southwest, the Intermountain region, and the Pacific Northwest. Substantial changes, mainly reductions, are also made in the proportional rates from the Missouri river markets to Minneapolis, Duluth, Chicago, and St. Louis, from Minneapolis to Duluth and Chicago, and from Missouri and Mississippi river markets to the Southwest and the Mississippi valley, including Memphis and New Orleans; also in the export rates from the Missouri river, Chicago, and St. Louis to eastern and Gulf ports."

The report concludes with the following general comment:

General Comment

From what has preceded, it must be obvious that this is an unusual proceeding. It embraces threescore and more of major issues, affecting every part of a vast territorial domain, each of which would ordinarily present a case of more than average importance and be treated in a separate report in the customary way. Detailed individual treatment of separate issues in this proceeding would result in a report encyclopedic in size, far beyond the limits of practicability, and require many months of additional time. As a practical matter it has therefore been impossible to discuss all of the facts bearing upon each issue. However, huge as this record is, thorough examination has been made not only of the immediate transcript of some 53,000 pages, but also of the 2,100 exhibits and approximately 20,000 pages of briefs, exceptions, oral argument, and final memorandums.

As previously stated, the greater part of the evidence and the chief contentions centered around wheat. In some respects, in a traffic sense, wheat is the most liquid commodity known in transportation. The classes or grades of wheat have long been standardized and, commercially, wheat approximates currency. The rate structure should permit it to move freely in all directions. Rates on wheat are closely related to one another, and even a slight change in one will ordinarily affect the movement governed by the others. In fact, generally speaking, all the rates on wheat may be likened to a huge blanket covering the entire country, and a pull on any part of this blanket to the extent of 1 or 2 cents, sometimes even a fraction of a cent, will be felt in every other part.

The action here taken represents the fullest possible response to all the mandates of the law affecting, among other things, the important subjects of levels and relations of rates, the natural and proper development of the country as a whole, and the maintenance of an adequate system of transportation. The future volume of movement of wheat and other grains between specific points can not be accurately known. It follows that the revenue effects of the increases and decreases which will follow the effectiveness of our action herein can not be precisely stated. We have made many different checks and estimates. While the reductions far exceed the increases, and the corresponding revenue effects will be substantial, the full effect upon revenues can not be adequately foretold, in view of the limitations upon transit, the elimination of transit balances outbound from primary markets, and the greater safeguarding of revenues from wasteful competition that should follow the reduced level of rates. We are satisfied that the readjustment will not threaten the maintenance of an adequate system of transportation. We say this especially in the light of increased revenues already granted in certain other cases, and in the realization that a failure of the present revision to afford adequate revenues will prompt further proceedings.

It would be impossible to take any comprehensive action without adversely affecting certain of the conflicting interests upon this record. Nothing but experience can demonstrate what the effect will be regarding certain of these issues. We therefore invoke the aid of carriers in establishing the rates herein prescribed with the greatest possible expedition in order that this new rate structure may receive a speedy test. All parties should co-operate to make careful note of the effect upon their interests, with the view to bringing to

our attention from time to time, after a reasonable trial, those situations which may require further consideration.

Although the commission's examiners in the proposed report had tentatively recommended a system of "yardstick" mileage scales for grain rates the commission adopted the plan of prescribing specific flat rates into the primary markets and proportional rates beyond, although it also prescribed three scales of mileage rates to be applied for miscellaneous interior movements, for western trunk line territory, Southwestern and Pacific coast territory, and Intermountain territory. Where the through rates are made through the primary markets from which there are proportional rates they are broken back into combinations of flat rates into the primary markets and proportional rates beyond.

An important feature of the decision is a finding that the existing dual system of proportional rates and transit balances outbound from primary markets results in undue preference of shippers under the transit balances and undue prejudice to shippers under the higher proportional rates. Overhead through rates less than the market combinations are required to be cancelled.

The proposed report had recommended a readjustment intended to preserve the revenues of the carriers.

Examiners Mackley and Hall recommended a finding that from the showing made upon the record "the general level of the rates on grain and grain products cannot be condemned as unreasonable under the interstate commerce act. Nor can that general level be reduced at this time by mandate of the resolution," although they said the record did require a consideration of the general method of making the present rates, with a view to correcting undue preferences, as well as any inequitable distribution of the transportation revenues.

The commission found many practices which it considered wasteful in connection with the use of transit and its order includes a requirement that transit stops without separate charge be limited to two for milling or other treatment plus one for inspection; additional stops for other than inspection to be paid for at the rate of 2 cents per 100 pounds.

Transit is included in the line-haul rate in the western district except in some parts of the Northwest, but the rates prescribed will include transit in the line-haul rates in all parts of the district. The report says that transit tariffs should be thoroughly overhauled and present grants of transit out of line and back-hauls "beyond the point of reasonable competitive necessity" eliminated. The commission also ordered that storage in transit of grain products not still in the process of manufacture should be discontinued.

Rates on coarse grains are the same as on wheat west of the Rocky mountains and in Illinois, and 90 per cent of the rates on wheat in the remainder of the western district. Rates on grain products, including flour, are higher than on grain from which the products are made in some of the territory west of the Rocky Mountains, and in some transcontinental shipments to the Pacific coast and are the same as on the grain throughout the remainder of the western district. The rates prescribed are applicable alike on wheat, coarse grains and their direct products. Rates on flaxseed, however, are prescribed on the basis of 112 per cent of the wheat rates.

Following are extracts from the majority report:

The Question of a General Rate Reduction

The question here presented is whether, under present conditions, the rates on grain and grain products throughout the western district are reasonable and just and are properly related to each other and to the rates on other traffic. The answer must take into account not only comparisons of distance, transportation conditions, and ton-mile and car-mile earnings on grain and other commodities, but also whether the general level of rates on all traffic as a whole is sufficiently high to accord to the carriers the rate of return contemplated by law, including section 15a of the interstate commerce act, which we construe to permit, but not to guarantee, the carriers to earn 5.75 per cent on the fair value of the property devoted to the transportation service.

Financial Condition of Carriers

The percentage rates of return of Class I carriers in the western district, by regions, for the calendar years 1921-28 were as follows:

	Regions			
	Northwestern	Central western	Southwestern	Western district
1921	1.42	4.45	3.17	3.12
1922	2.78	4.07	3.27	3.45
1923	3.45	4.50	3.65	3.96
1924	3.12	4.21	4.34	3.87
1925	3.60	4.41	4.37	4.13
1926	3.83	4.86	4.56	4.45
1927	3.40	4.28	3.98	3.92
1928	4.04	4.59	4.32	4.35

The above percentages are computed on the investment of the carriers, as shown by their books, including materials and supplies and cash as of the beginning of the year.

For 10 railroads having 75 per cent or more of their mileage in western trunk-line territory the average rate of return on book value was 2.97 per cent in 1927. In that year also, on the same basis as used in the table above, the returns for individual carriers were 3.66 per cent for the Chicago & North Western, 4.53 per cent for the Chicago, Burlington & Quincy, 4.26 per cent for the Illinois Central, 5.06 per cent for the Atchison, Topeka & Santa Fe system, 4.49 per cent for the Union Pacific system, and 3.71 per cent for the Southern Pacific Company. For the years 1921-1927, inclusive, the Oregon-Washington Railroad & Navigation Company earned 1.02 per cent on its book value. The composite earnings of the Great Northern, Northern Pacific, and Minneapolis, St. Paul & Sault Ste. Marie in 1927 yielded 4.75 per cent on our valuation, without considering subsequent investment. During the seven years after the termination of federal control these roads were short $189,775,069 of making a 5.75 per cent return on property investment and $136,265,151 short of that return on our valuation. In the year 1927 the corresponding shortage was $12,758,736 on our valuation. The Great Northern and Northern Pacific during the 10-year period 1916-1926 added $216,144,016 to their investment, but in 1926 their net railway operating income was $3,394,410 less than for the year ended June 30, 1916, before they made this additional investment. The foregoing statements were practically undisputed upon this record.

Proportion of Grain Traffic

Grain and grain products constitute a substantial part of the tonnage of the carriers of the western district, as the following table will show:

Grain and Grain-Products Revenue Percentage of Total Revenues in 1924

Western district	12.1
Northwestern region	16.3
Central western region	10.7
Southwestern region	8.9
G. N.-N. P.-Soo	20.0

For the calendar year 1927 on class 1 railways of the western district, grain and grain products constituted of the total traffic 11.60 per cent of tons originated and 10.12 per cent of tons carried, including tonnage from connections. The grain products constituted 24.74 and 26.92 per cent, respectively, of the total grain and grain products, tons originated and tons carried.

Various analyses purporting to show the aggregate costs of transporting wheat have been presented upon this record.

The cost formulas themselves recognize that the cost of transporting grains other than wheat, as well as flour and other grain products, which load substantially lighter than wheat, is greater than the cost of transporting wheat. In the interstate study, for a haul of 500 miles, for example, the cost of transporting flour and meal is recognized as being approximately 28 per cent higher than on wheat. Despite these differences in cost the rates on grain products, including flour, are the same, with some exceptions, as on the grain from which the products are made; the rates on coarse grains are the same as on wheat in some sections, and 10 per cent less than on wheat in others, as already stated; and grain may be milled in transit at intermediate points at the through rate,

instead of at the higher combination on the milling point, without extra charge for the stopping in transit, except that on shipments from the Northwest to Puget Sound and Columbia River ports, and to Lake Superior ports and the Twin Cities, an extra milling charge of from 1.5 to 2.5 cents per hundred pounds is usually made.

Methods of Rate-Making

The record requires a general survey of the rates on grain and grain products throughout the western district from the standpoint not only of cost, but of general transportation conditions as well. The relation of rates, as well as the general level, is within the scope of the investigation.

There are three different bases of rates available on wheat to and from the primary markets, namely, (1) combination of flat rates in and out; (2) combination of flat rates in and proportional or reshipping rates out; and (3) overhead rates with transit.

For many years through rail rates on grain and grain products have been largely the combinations of flat rates to and proportional rates from the primary markets, or the so-called rate-break combinations. Illustrative of these combinations are flat rates to Minneapolis, proportional rates to Chicago, and proportional rates beyond; flat rates to Omaha or Kansas City, proportional rates to Chicago or St. Louis, and proportional rates beyond; and flat rates to Chicago and St. Louis, and proportional rates beyond.

The rate-break through primary markets is not exclusively employed, however. There are, as stated, many overhead through rates with transit at the primary markets lower than the combinations on the primary markets and, therefore, many transit balances less than the proportional rates. These overhead rates apply through markets on both direct and indirect routes. The proportional rate from one primary market to another is frequently made applicable with transit at an intermediate primary market, in lieu of the combination of proportional rates to and from the intermediate market.

An important issue in this proceeding is whether the rates through the primary markets shall be made on the combination of flat rates to and proportional rates from the markets exclusively, or in part, or at all. There are proponents and opponents of each of these methods.

Rate to First Market Apparently Most Important to Producer

The producer's country price is generally said to be the market cash price minus the freight and handling charges into the market. On such a basis it follows that a reduction in the inbound rate to the market would benefit the producer, if the market price remained stationary. Whether that price would be affected by a widespread reduction of inbound rates is a matter of some speculation. The weight of the evidence seems to be that the market price would perhaps be more affected by a change in the outbound than in the inbound rate. The effect upon the producer of any change in rates is more or less speculative, but the record seems clearly to indicate that any substantial benefit to the producer would more likely come from a reduction in the inbound rate than from any other revision.

Rate Break Preserves Carriers' Revenues

It is believed that making rates through primary markets exclusively by combination of flat rates to and proportional rates from the markets, would not only preserve, but would substantially increase, carriers' revenues, even with substantial reductions in both the inbound flat rates and the outbound proportionals, because of the discontinuance of transit balances much lower than the proportionals. This statement may be challenged as resting on the false premise of no change in the present channels of movement. But there is a certain amount of grain to be moved through the primary markets, and it seems reasonably clear that the advantages and disadvantages of a changed current of traffic would be rather well equalized between markets, carriers, and shippers. Such a change might be of decided advantage to originating lines in many instances.

The propriety of the present dual system of proportional rates and transit balances from the markets is open to question from the standpoint of orderly tariff procedure. It may be argued that the transit balance as well as the proportional rate is specially provided for by tariff. But we are charged with the proper regulation of the construction of tariffs, and with the prevention of abuses in tariff administration, as well as with the prevention of undue preferences between outbound shippers. We clearly are empowered to say whether, in all the circumstances affecting the grain traffic, proportional rates shall be employed exclusively, or in part, or at all.

The transit balance at primary markets has always been a source of disorganization of rates.

Proportional Rates Required from Primary Markets

We find that the practice of contemporaneously charging both proportional rates and transit balances subjects the shipper under proportional rates to undue prejudice and disadvantage, and gives to the shipper under the lower transit balance an undue preference and advantage, from which the carriers will be required to cease and desist; that the through rates herein prescribed, on the basis of flat rates to the primary markets and proportional rates beyond, will be reasonable; and that overhead through rates less than those combinations should be canceled.

The foregoing finding is not intended to prevent carrier competition that does not disrupt the basis of making rates by combination on the primary markets. Thus the combination on a given market may be applied as a through rate through another market on which the combination is higher than on the market first mentioned, provided that the shipment is not stopped in transit at the market or other intermediate point on the route over which the higher combination obtains; but if the shipment is stopped at either the market or other intermediate point on the latter route, the higher combination must be applied.

Relation of Wheat and Coarse Grains

The importance of the coarse-grain relation to wheat is shown by the fact that for the years 1921-1925, inclusive, the coarse-grain proportion of total grain production was 90 per cent in South Dakota and Minnesota, 55 per cent in North Dakota, 86 per cent in Nebraska, and 60 per cent in Kansas. The proportion of coarse-grain tonnage is also heavy in Iowa and Illinois. The proportion of the total grain traffic affected by the reduction of 21.7 per cent on coarse grains, referred to, was 70 per cent on the North Western, 60 per cent on the Burlington, 58 per cent on the Minneapolis & St. Louis, 55 per cent on the Milwaukee, 50 per cent on the Burlington, 27 per cent on the Santa Fe, 24 per cent on the Great Northern, and 20 per cent on the Northern Pacific. The carriers point out that the unfavorable financial showing among the carriers is most pronounced with the important coarse-grain carriers, whose rates were most affected by that reduction.

A comparison of operating results does suggest that the relatively low level of coarse-grain rates is at least partially responsible for the unfavorable financial showing of the coarse-grain carriers, especially in western-trunk-line territory. For instance, in a group of 21 carriers with combined annual freight revenues of approximately $2,000,000,000, 9 of them, with relatively low coarse-grain tonnage, exceeded their statutory return by nearly $35,000,000, while the other 12, with a large coarse-grain tonnage, were short of their statutory return by more than $75,000,000.

From a transportation standpoint there is no justification for rates on coarse grains 10 per cent lower than on wheat. Coarse grains load lighter than wheat. Perhaps the main argument in favor of the differential is the somewhat lower value. Substantial justice can best be done to shippers of both wheat and coarse grains by one rate on both classes of traffic. In this way wheat rates can be reduced to a level justified by the showing of this record as to wheat, and border-line discriminations between States can be best removed.

We find that the rates on wheat and coarse grains are unreasonable to the extent they exceed the rates prescribed in Appendix D, to be later referred to.

Relation of Rates on Grain and Grain Products

The rate on flour is the same as on wheat except that between certain parts of the Mountain-Pacific group, and from east of the Rocky Mountains to Pacific coast territory, the flour rates are 7 cents higher than on wheat. From the standpoint of relative loadings, values and general transportation characteristics the propriety of this equalization might be questionable. Arguments in favor of the adjustment are that it conduces to shorter hauls on wheat and the prompt return of empty cars, provides additional wheat storage at mills near the wheat fields, promotes the prosperity of the smaller country towns, supplies offal to the farms, and stimulates country prices through the millers' competitive buying, frequently at premium prices. One of the arguments most em-

phasized is that a flour differential would tend eventually to move the milling industry to the more populous sections of the East. The carriers which now transport wheat and flour at the same rate are not proposing a differential for flour.

The rates on the direct products of coarse grains are usually the same as on the coarse grains themselves.

We find that the rates on wheat and coarse grains and their products are unreasonable to the extent they exceed the rates prescribed in Appendix D.

Transit

Transit is a common practice at both market and interior milling points. It is accorded in connection with both flat and proportional rates, over both direct and indirect routes, frequently with extensive back-haul and out-of-line service and, except in the Northwest (to be discussed later), without charge other than the compensation included in the line-haul rate. The transit stop is for a variety of purposes, including inspection, conditioning, storing, milling, feed mixing, and partial unloading. There is no general rule or practice governing the purpose or number of such stops, each carrier dealing with requests for transit according to the facts in each case. Sometimes successive stops are permitted by each carrier in a through route. Present transit practices are accordingly far from uniform, and are the subject of wide complaint of discrimination upon this record.

The situation is a difficult one, especially from the standpoint of carrier competition. In some instances the practices indulged are plainly unwarranted. A strict rule governing all phases of transit will not be undertaken at this time, but some limitations are here deemed necessary. The carriers transit rules should provide for (a) a maximum of two free stops in transit (plus one inspection) of grain for storage, conditioning, and milling into its direct products, additional stops to be paid for at the rate of 2 cents per hundred pounds for each stop other than for inspection; (b) reasonable limitation of out-of-line and competitive routes and back-hauls; and (c) elimination of little-used and obsolete transit provisions that serve mainly as a basis for unreasonable requests for transit and to bring censure upon transit tariffs generally. A stop at a primary market from which there are proportional rates will be viewed as any other transit stop.

We find that present transit practices are unreasonable and unduly preferential and prejudicial to the extent they are not in harmony with the foregoing conclusions.

Separate Transit Charge in Northwest

The foregoing discussion has been of transit without separate charge, which prevails throughout the western district, except that on the lines of the Northern Pacific, Great Northern, Milwaukee west of about Mobridge, S. Dak., and Oregon-Washington Railroad & Navigation Company west of Huntington, Ore., to Minneapolis and Duluth eastbound, and to north Pacific coast terminals westbound, a separate transit charge of from 1.5 to 2.5 cents is made.

We find that the making of a separate charge for transit on the northern lines named, or parts of those lines, and the granting of transit without separate charge on other lines in the western district, or on other parts of the northern lines, subjects the shippers subject to the separate charge to undue prejudice and disadvantage and gives to the shippers against whom no separate charge is made an undue preference and advantage, from which the northern lines should cease and desist by making no separate charge for transit.

Many of the present transit circulars violate the provisions of Tariff Circular 20, and are confusing, because they publish rates in connection with transit provisions. They should be confined to transit rules and leave the rates to be published in rate tariffs.

We find that, in connection with the manufacture of mixed feeds containing other than the direct products of grain, the protection of the through rates on grain or grain products, with the resulting application on the mixed feed from the manufacturing point of the transit balances or proportional rates applicable on grain or grain products is unreasonable and unlawful.

We find that the unit rule is unreasonable and unduly preferential and prejudicial.

Varying Present Rate Levels

It will be noted that by comparison with the 15026 scale many of the present rates are low, others are high, and relative rate levels are not in entire accord with transportation conditions. Among the influences contributing to these variations are Canadian competition, state regulation, and our own revisions in certain territories. We are confronted with the fact that, judged by the usual standards of transportation conditions, some of the rates in the western district, on both wheat and coarse grains, are too low, while others are too high. Horizontal treatment of such rates would perpetuate these inconsistencies. It follows that proper treatment would leave some of the rates as they are, reduce some, and increase others.

Carriers' Proposals

Other than in the Northwest, in connection with *Grain and Grain Products,* 122 I.C.C. 235 (I. and S. Docket 1469), consolidated for further consideration herein, and in the Southwest, the carriers, generally speaking, especially in western trunk-line territory, point to the fact that the present rates have been largely prescribed or reviewed by us, contend that they are reasonable or subnormal, and propose no change in the present adjustment. The proposals of the northwestern carriers in the case cited are fully discussed in the report. The southwestern carriers make certain propcsals. The general basis of these proposals is the scale pre scribed for application from Oklahoma to Texas in the first decision in *Oklahoma Corporation Commission* v. *A. & S. Ry. Co., supra,* which was substantially higher than the scale prescribed between the same points in the second decision therein.

A readjustment of rates throughout the western district has been evolved, for application on both wheat and coarse grains and the direct products thereof, subject to the transit regulations and other requirements of the previous discussion herein.

To meet the contention, already mentioned, that through rates made on the primary-market combinations are necessarily unreasonable, because of the manner of their construction, the rates herein prescribed have first been determined on a reasonable basis and, when applicable through primary markets from which there are proportional rates, broken back into flat rates to the primary markets and proportional rates beyond. The new proportional rates are better proportioned to the inbound flat rates than under the present adjustment, and they approximate, in a general way, the average transit balances beyond the first primary markets of the through rates prescribed in Appendix D.

We find that the present rates on wheat and coarse grains and their products are unreasonable and unduly preferential and prejudicial to the extent they exceed the rates prescribed in Appendix D, to be applied in accordance with the previous discussion herein as to rate break, relation of commodities, transit, etc., and subject to the later discussion herein of general issues or specific adjustments.

We further find that rates from other points to the same destinations are unreasonable to the extent they exceed rates made with reasonable relation to the rates from neighboring key points herein specifically prescribed.

We further find that rates between points between which rates have not been prescribed, specifically or by reasonable relation, are unreasonable to the extent they exceed rates made on the basis of the so-called interior scales shown in Appendix D.

Reasonable groupings of origin and destination points will be permitted.

Mileage Rates Through Markets a Possibility

Pronounced changes in market relations will result from the foregoing findings. The original basis of overhead through rates with transit at the primary markets proved unsatisfactory and gave rise to the proportional rates. The proportionals were quite generally observed prior to the general percentage changes and were productive of much less complaint than the present proportional rates and transit balances, which do not function together harmoniously. A return to the method, strictly observed, of making through rates by combinations on the primary markets is warranted by this record, in the interest of market, carrier, and producer. If it should fail, a uniform mileage basis through the markets, with transit balances exclusively beyond the markets, is a possible alternative.

In checking in the proportional rates care should be taken to protect adjustments of flat rates, and rate relations, by appropriate requirements as to the inbound flat rate that can be used in connection with the proportional. Such a provision would prevent, to the Texas gulf ports, for example, combinations on Kansas City from Kansas points close in to Kansas City on a basis too low by comparison with direct

rates from other points in Kansas, and from Oklahoma. Such combinations should in no instance be less than the flat rates herein prescribed from Kansas City.

It is impracticable and unnecessary to set out in detail the territories of origin and destination between which the primary-market combinations of flat rates in and proportional rates out will apply. It is sufficient to say that this will be the exclusive basis of charge from the grain producing territories both west and east of the Missouri River to the East, the Southeast, the Mississippi Valley, and the Southwest, and not merely a basis alternative with the lower overhead rate and transit balance, as it is today. However, certain origin territories from which the routes through primary markets are sufficiently direct to warrant prescription of the market combinations as the exclusive basis of charge should be specifically described.

Reparation

Some of the complaints consolidated for hearing on this record ask for reparation. Other complaints were filed during the pendency of this proceeding and submitted, without separate hearing, for determination on this record, but with a reservation of the issue of reparation. The revision herein made is mainly of the relations of rates, in the removal of undue preferences and the promotion of uniformity of rate levels under substantially similar transportation conditions. The rates covered by these complaints have not been shown to have been inherently unreasonable, in the past, under section 1 of the interstate commerce act.

Interstate Versus Intrastate Levels

An important issue is the relation between interstate and intrastate rates. The complaints of discrimination against interstate shippers have been numerous. The desirability of uniformity in rate levels in the same general territory, for both interstate and intrastate shipments, is apparent. Instead of any reasonable approach to this uniformity there is a wide disparity between not only interstate and intrastate levels, but between intrastate levels themselves.

It will be assumed that not only generally in the interest of substantial equality among all shippers, but in accordance with the co-operative agreement every effort will be made by the state commissions to achieve the maximum of uniformity in interstate and intrastate levels. Upon this assumption an opinion has been expressed herein upon certain of the intrastate adjustments in Oregon, California, Texas, and perhaps other states.

Other findings are summarized as follows:

Relation of proportional rates from Omaha, Kansas City, and St. Louis to Memphis and New Orleans and from Kansas City, Omaha and Sioux City to Minneapolis and Duluth substantially revised.

Requests of Wichita, Kans., and Grand Forks, N. Dak., for the prescription of outbound proportional rates denied.

Bran, shorts and middlings move out of transit points on the transit balances of through rates on wheat in some instances and on the transit balances of through rates on coarse grains in others. The one basis herein prescribed for both wheat and coarse grains will correct existing inequalities in this respect.

Bases of rates on farm seeds revised.

Request of Minneapolis for transit under the rate to Duluth from North Dakota and Montana, from which the rates to Minneapolis and Duluth are the same, based on the location of Minneapolis directly intermediate to Duluth on the route of the Chicago, Milwaukee, St. Paul & Pacific, denied, and the combination of flat rates to Minneapolis and the proportional rate beyond found to be the proper basis of charge under the rate-break system of making rates through primary markets herein prescribed.

Previous findings that the rates to Portland, Oreg., should be 10 per cent lower than to Puget Sound ports from points south of the Snake River in Washington and Oregon affirmed.

Readjustments required in numerous specific situations presented upon this record and by formal complaints and investigation and suspension proceedings consolidated therewith.

One basis for both export and domestic shipments prescribed for application to Texas Gulf ports and north Pacific coast ports.

Export differentials to Galveston under New Orleans from designated areas in Texas, Oklahoma, and Kansas prescribed.

Relation of export rates from St. Louis, Chicago, and Missouri River markets to New Orleans and Baltimore revised.

The following table, from Appendix D, gives some of the more important rates in cents per hundred pounds:

PROPORTIONAL RATES

	Present (wheat)	Prescribed (wheat and coarse grains)
To Duluth from—		
Minneapolis	6.5	4.5
Sioux City	17.5	13
Omaha	17.5	16
Kansas City	19	20
To Minneapolis from—		
Sioux City	16.5	8.5
Omaha	16.5	11.5
Kansas City	17.5	15.5
To Chicago from—		
Minneapolis	13	11
Sioux City	17.5	15
Omaha	17.5	15
Kansas City	17.5	15
To St. Louis from—		
Sioux City	17.5	16
Omaha	13.5	13
Kansas City	13.5	9
To Kansas City from—		
Omaha	8	6
To Omaha from—		
Sioux City	4.5	3
To Memphis from—		
Omaha	25	22
Do [1]	22.5	22
To Memphis from—Cont.		
Kansas City	24	16
Do [1]	21.5	16
St. Louis	11.5	9
Do [1]	9	9
To New Orleans from—		
Memphis	17	10
St. Louis [2]	28.5	19
Kansas City [2]	41	26
Omaha [2]	42	32
To Texas Group 3 from—		
Kansas City	37	21
Omaha	45	27
St. Louis	37	23
To Louisiana Group 3 from—		
Kansas City	41	[3] 26
Omaha	45	[3] 32
St. Louis	37	[4] 23
To Little Rock from—		
Kansas City	26.5	16
Omaha	31	22
St. Louis	23.5	10
To Texarkana from—		
Kansas City	31	16
Omaha	35	22
St. Louis	31	16

[1] For the Southeast.
[2] Domestic.
[3] West of the Rock Island from Randolph south through Ruston, Alexandria, and Eunice 3 cents less.
[4] On and east of above line 4 cents less.

EXPORT RATES

	Present	Prescribed
Kansas City to Texas Group 3	23.5	[1] 21
Omaha to Texas Group 3	24.5	[1] 27
Omaha to Montreal	[2] 31.5	[3] 29
Kansas City to Montreal	[2] 31.5	[3] 29
Omaha to Baltimore	38.5	31
Kansas City to Baltimore	38.5	31
Omaha to New Orleans	24.5	27
Kansas City to New Orleans	23.5	21
St. Louis to Baltimore	25	22
St. Louis to New Orleans	11	14
Chicago to Baltimore	21	16
Central Illinois to Baltimore	32.5	27.5
Central Illinois to New Orleans	22.5	25.5

[1] Also the domestic rates.
[2] Through charge to Montreal is made by adding to the proportional rate of 17.5 cents to Chicago lake charges, not subject to the interstate commerce act, said to approximate 14 cents beyond.
[3] Through charge to Montreal will be made by adding to the reduced proportional rate of 15 cents to Chicago lake charges, not subject to the interstate commerce act, said to approximate 14 cents beyond.

Seven of the eleven commissioners wrote separate expressions of opinion, concurring or concurring in part with the majority report, while Commissioner Aitchison dissented in part. The two newest commissioners, Lee and Tate, indicated their agreement with parts of the expressions of others, and Commissioner Farrell was the only one who gave no individual expression of views. The separate opinions indicate that most of the important features of the import and order were agreed upon by very close votes, 6 to 5 or 7 to 4, and the points on which four or five of the commissioners failed to agree with the majority are discussed and argued back and forth in the separate opinions. Commissioner Meyer, who was in direct charge of the proceeding, used his concurring opinion to answer some of the arguments of the others. Commissioners Lewis and Woodlock, expressed the belief that the rate level adopted is too low, although they concurred with qualifications on the ground that the rates prescribed will correct many discriminations.

Commissioners Aitchison, Brainerd, McManamy and Porter objected because the order does not preserve the differential under wheat rates for coarse grains. Commissioners Brainerd, Lewis, McManamy and Tate desired the establishment of export rates lower than the domestic rates. Commissioners Eastman, McManamy, Tate and Porter objected to the free transit service allowed.

Commissioner Lewis, who devoted his opinion large-

ly to an argument for a lower basis of export rates, commented on the general rate level as follows:

I am extremely doubtful that the heavy reductions made in domestic rates will be of benefit to producers. They will not fail to have serious effect upon certain of the weaker carriers. Volume of traffic and earnings are falling. The carriers are reducing operating expenses. In doing so they are discharging employees and cutting down their purchases of supplies, equipment, and materials. Heavy reductions in grain rates at this time probably will require still further retrenchment, and directly and indirectly these things adversely affect the purchasing power of probably millions of the grain producers' consumers. The effect will be to decrease, rather than to increase, consumption of grain in this country.

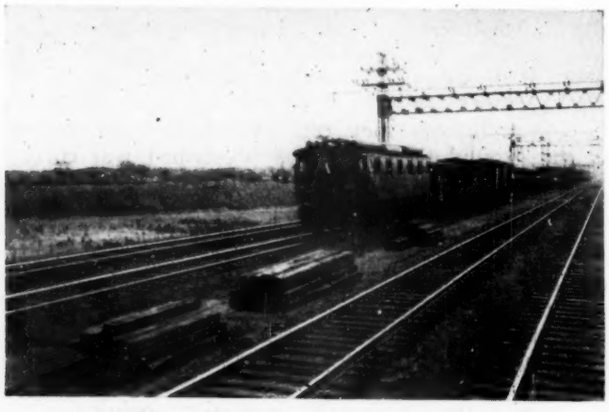
The home market is the best market the American grain grower has. His concern can not lie so much in the few cents a bushel that we may be able to clip off his transportation costs as in the restoration of conditions which give him a seller's market, or a return to profitable prices. Exporting the surplus, he must look to the home market for a return of higher prices. It is short-sighted policy to contribute to a debility in and of that market.

The best argument that is made in behalf of the decision herein is that it creates more equitable rate structure which will lend itself to horizontal adjustments up or down. This carries to me intimation that the level herein prescribed is probably too low to be permanent. Stability in rates is one of the highly desirable things to be sought in this or any other adjustment. I have only given expression herein on export rates. I disagree with some of the decisions on details.

Commissioner Woodlock's opinion included:

My main difficulty with the report is the level of the rates prescribed. They are, in my judgment, far too low. They will involve a reduction of at least $15,000,000 in the revenues of carriers in the western district—perhaps more—and that loss will fall most heavily upon carriers in the Southwest and in the Pacific Northwest which will derive no benefit whatever from our revision of western trunk-line class rates. That revision, indeed, will probably bring about some reduction of class rates in a portion of the Southwestern territory. This is a very serious matter when it is remembered that in these districts there are offered but few opportunities for recoupment of this revenue loss from other sources of traffic. The showing made by the western carriers, and particularly the carriers in western trunk-line territory, is impressive in this respect. If the rates herein prescribed are to remain long in effect in this territory, I can not but feel that they will produce a situation which will require emergency remedies if we are to maintain in that territory "an adequate system of transportation." I have little or no confidence in many of the so-called cost studies which seem to justify the rates here prescribed. But for the other advantages of the report and but for one fact with respect to the new rate structure that structure would, in my opinion, constitute a fatal defect which would prevent me from even a partial concurrence in the report as a whole. But one advantage of the structure herein prescribed is that it will be susceptible of horizontal change without much risk of such change producing new and widespread discriminations so that its rectification when such rectification shall be shown to be necessary should not be a matter of great difficulty. I assume that we shall be ready and prompt to rectify the structure if it shall prove, as I fear it will, to be too low.

* * *



A Freight Train in the Electrified Zone of the New York, New Haven & Hartford

Treasury Officers Meet

THE Twenty-fourth Annual Meeting of the Railway Treasury Officers Association was held at the Hotel Cleveland, Cleveland, Ohio, on June 18-20.

The delegates were welcomed by John D. Marshall, Mayor of Cleveland, and by J. J. Bernet, president of the Chesapeake & Ohio. Col. Leonard P. Ayres, the well-known economist, vice-president of the Cleveland Trust Company addressed the meeting. Formal papers were presented on "Purchase of Stock By Employees: Methods of Handling", "For the Purpose of Computation of Time Within Which Tariff Charges are to be Paid, When is Delivery of a Shipment Made?", "Uniformity in Acceptance of Travelers' Checks" and "Temporary Investment of Surplus Funds."

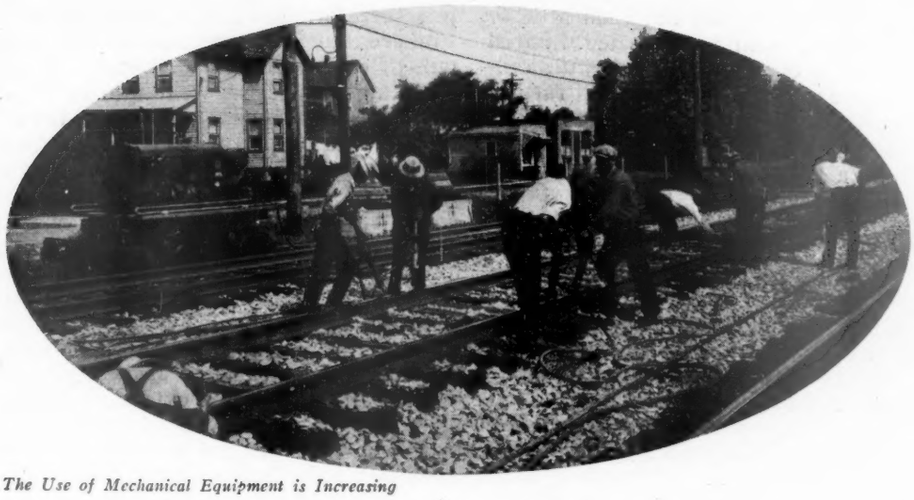
Reports from standing and special committees indicated substantial accomplishments during the year. The executive committee reported that the Interstate Commerce Commission examiner, who had conducted hearings on the petition of the National Industrial Traffic League for a re-opening of Ex Parte No. 73, which governs the collection of transportation charges and extension of credit to shippers, had recommended a continuance of the present practices of the carriers with some slight modifications. Based upon the examiner's recommendations, the executive committee prepared a revised set of rules covering the collection of transportation charges and submitted these rules to the Association of Railway Executives for further consideration by that body.

A special commitee on payroll practices presented a report based upon a comprehensive study of methods and practices in use on the railroads of the country covering the handling of payrolls and payments to employees. A special committee on diversions and re-consignments completed its work during the year, the national committee on diversions and re-consignments having taken final action eliminating the requirement in the tariff regulations that shippers must file with carriers certificates to the effect that bills of lading are not available.

The committee on bills of lading and the committee on uniform shippers' order bonds have made further headway in the development of rules covering the handling of bills of lading and of forms of bonds to be filed with carriers for delivery or other disposition of order consignments prior to surrender of bill of lading or of shipment under straight bill of lading without surrender of proper order to deliver. Further study will be given to these same subjects during the present year.

The new officers of the association are: President, R. E. Connolly, treasurer of the Illinois Central, New York; vice-president, A. E. Tate, assistant treasurer of the Southern, Washington, D. C.; secretary and treasurer, L. W. Cox, Philadelphia.

The executive committee is constituted as follows:—R. E. Connolly, president (ex officio); A. E. Tate, vice-president (ex officio); H. P. Conner, assistant treasurer, Pennsylvania; O. M. Longnecker, treasurer, Southern Pacific Lines in Louisiana and Texas; Charlton Messick, treasurer, St. Louis Southwestern; P. D. Houston, treasurer, Tennessee Central; J. Williams, treasurer, Chicago & Alton; F. T. Dickerson, secretary and treasurer, Central of New Jersey; F. J. Buller, treasurer, Canadian National; R. P. Ahrens, assistant treasurer, New York Central, and J. G. Walsh, treasurer, Erie Railroad.



The Use of Mechanical Equipment is Increasing

Future Presents Many Problems

Adoptions of new machinery to be vital factor in railroad progress during next ten years

By Elmer T. Howson*

Western Editor, *Railway Age,* Chicago

THE railways in the ten years that have intervened since the termination of federal control have risen to new heights of efficiency. In this decade they have made greater progress in serving the needs of the country and in promoting economy and efficiency of operation than in any similar period in history. In the last year alone they established no less than 12 new high records for operating efficiency, including freight car miles per car day, net ton miles per car day, gross tons per freight train, net ton miles per freight train hour, fuel consumption per 1,000 gross ton miles, etc. And these records are still being improved.

Such a record is one of which every railway man may be proud. Yet we cannot afford to spend our time reviewing the past. Our problems lie in the future and it is in that direction that we must look. Neither can we afford to rest on our laurels for our industrial life is now geared to such a high pace that, in the language of the Irishman, "We have got to run like hell today to keep from slipping backward." That greater things are before us than we have yet dreamed of is indicated by R. H. Aishton, president of the American Railway Association who has said that "We are going to see more progress in the next ten years than we have in the last twenty." It is to these years that are immediately ahead that I direct attention.

Adjustment to Declining Traffic a Serious Problem

One of the most serious problems that is now confronting the railways and every department and officer in their organization is that of adjustment to a declining rate of traffic growth, if not to a period of practically stationary traffic. Until relatively recently the development of the country has been such that the railways have continually faced the problem of so increasing their facilities as to be able to handle with reasonable satisfaction the traffic that was offered them in steadily growing volume. Now, however, we have been for ten years experiencing such a pronounced decline in passenger traffic that the number of passengers now being carried is only two-thirds that of 1920 and the decline is not yet arrested. In this decade we have lost a million passengers a day on the railways of the United States alone. In freight service the same trend exists although less pronounced as is shown by the fact that whereas in the ten years ending with 1910 the increase in the number of tons handled was 73 per cent or about 43,000,000 tons annually, this increase declined in the nine years ending with 1929 to 6½ per cent or approximately 9,100,000 tons annually. Measured in ton miles, the average annual increase in the 10 years ending with 1910 was 11½ billion and in the last 9 years only 4 billion. When this year's figures are available the trend towards a stationary level of traffic, will be even more pronounced. This development is one that should give concern to every railway officer.

Problem of Increasing Costs

In the face of this trend in traffic, the railways are confronted with increases in costs of operation in numerous directions. Statements have appeared in the daily press recently of the launching in the near future of a movement among certain of the railway labor organizations looking to a six-hour day, which action cannot do other than add greatly to the payroll expense. Taxes have shown no indication of other than continuing the increase that has been so pronounced of late. Demands for expenditures for elaborate passenger ter-

* From an address before the annual meeting of the Safety Section, A.R.A., at Denver, Colo., on July 2.

minals, for grade separation and other improvements that contribute to public convenience but yield little or no return to the railways, continue unabated. Faced with such inroads on their current net income, the railways have no alternative other than to seek still further economies in operation. Severe as the pressure has been in this direction of late, I think that it is self-evident that it is only a forerunner of the still greater pressure that is to be expected in the future.

The Question of Safety

In meeting this further and still more insistent demand for economy and efficiency in operation, the safety department must be prepared to bear its share of the burden. You have as an impelling motive your full share of responsibility as railway officers for the conduct of operation with the degree of economy that the future is going to demand of every such officer and the further incentive that any success attending your efforts goes to relieve suffering and sorrow.

To the extent that an injury disorganizes a gang and interferes with its production that injury constitutes an unnecessary tax on the efficiency of that department and on the cost of its operation and should be eliminated. Entirely aside from the humanitarian consideration, every accident resulting in the death of an employee or other person, likewise creates a drain on the revenues of the road sufficient to cause it to haul a tonnage train on the average railroad a full engine district to pay for this claim.

Furthermore, in response to the demand for still greater economy it is to be expected that the railways will follow and enlarge upon those methods which have proved so effective in the past, including the operation of larger locomotives, making possible longer trains; more signaling, centralized dispatching and other equipment to keep trains moving and to eliminate delays; stronger track and structures to permit heavier loads at higher speeds with increased safety; car retarders for quicker train classification in terminal yards, etc. Each of these and many similar measures has a direct relation to your problem, sometimes favorable and at other times adverse. It is your responsibility to keep so informed as to each of these developments that you may take full advantage of those that are favorable and see that those that introduce new hazards are so surrounded with safeguards that they do not affect your accident record adversely.

Competition Between Carriers to Increase

Another development of the immediate past and one that may be expected to become more pronounced in the future is the increasingly active competition between roads in their endeavors to serve their patrons. There has probably never been a time when competition for railway business has been more acute or when the roads have been more active in cutting schedules, freight as well as passenger, to improve the service for their patrons. In passenger service the shortening of train schedule has been almost universal, while this trend is scarcely less pronounced in freight service. To date much of the improvement that has been made has been effected by eliminating delays. Future improvement will be possible in large measure only by the operation of the trains at higher speeds while in motion.

It is true that the improvements in track and equipment in recent years are such that the hazard is less now than with the conditions that prevailed 10, 15 or 20 years ago. Yet, other conditions being equal, increased speed adds to the hazard of train operation and this subject therefore has a direct bearing on your problem. You are thus facing the necessity of so studying the details of equipment and of roadway maintenance and of operating methods as well as to insure that the higher speeds that are inevitable are not at the cost of accidents to life or to property.

There is another development that is not without interest and concern to you. You have long regarded yourselves as railway men. Yet, I am not sure but that you are facing the necessity of broadening your horizon to include highway and possibly air transportation. It is not long since many railway men considered the limits of their activities as fixed by the confines of the right of way fences. Yet, today, a large proportion of the railways are engaged in the transportation of passengers and to a lesser extent of freight on the highways and the mileage of these service routes is being extended daily. It has been amply demonstrated that there is a place in our economic set-up for transportation on the highways and it is logical to expect that, as this newer agency measures up to its possibilities, it will be brought more and more into co-ordination with rather than independent of and competing with existing rail lines, thereby providing a unified service of maximum benefit to the public. Likewise in the air where the possibilities are as yet less explored, the trend is distinctly in the direction of co-ordination with rail service. As the railways extend their activities to include these newer agencies of transportation, it is to be expected that your responsibilities will likewise be extended. I suggest to you, therefore, that, if you have not already done so, you acquaint yourselves with the problems of accident prevention here. I am sure that you will find much to interest you and challenge your attention.

Only Through Use of Machinery Can We Maintain Wage Rates

In still another direction vast changes are in the offing. This is termed the machine age in American industry. In almost every avenue production is being increased and drudgery decreased by bringing a machine to the aid of the workman.

In large degree it is only through the use of machinery that our present wage rates can be maintained. The American railway man is the most efficient in all the world; he is likewise the best paid. Both of these results have been made possible only through the large investment which the railways have already made for fixed and movable plant. It is only by adding greatly to this investment and thereby enabling the output of the individual workman to be increased that the present liberal wages can be maintained in the face of falling markets elsewhere. The heavier train loads made possible by larger locomotives, stronger track, reduced grades, etc., are an example that occurs to all.

Machinery in Maintenance of Way Work

However, let us consider a less commonly appreciated development that illustrates the scope of this same movement and that is not without its problems for the safety man. I refer to maintenance of way operations which have long been done almost entirely by hand and in which nearly a quarter of the entire forces of the railways is engaged. For the bulk of this work it was long contended that the principal requirement was a strong back. But this is no longer true for equipment to replace manual labor has come into use with surpris-

ing rapidity. The budget of a single railroad which it was my privilege to look over not long ago contained authorization for the purchase of more than $1,500,000 worth of equipment of this character. The installation of such equipment adds greatly to the ease, speed and efficiency with which this work is being done. Its installation is, however, leading to drastic rearrangements in working methods which is creating new problems for you.

Take the track motor car as an illustration. With its predecessor, the hand car, speed was not a problem but with the motor car it is a very real one. By reason of the greater speed possible it has created new problems for the safety officers in the same way that the automobile has given rise to entirely new hazards on the highways, the hazard arising primarily not from the machine itself, but from its improper use.

Take another and even more recently introduced unit of work equipment, the tie tamper—as a further illustration of the hazard created by the introduction of new equipment. Three men operating tie tampers were killed at one time in one gang on one western railway last year and six men in another gang on an adjoining railway by reason of their failure to notice or hear the approach of a train. The necessary precautions for the elimination of such accidents are obvious but these accidents are mute evidence of the necessity for activity on your part to see that the need for these precautions is understood when this equipment is placed in service and that these precautions are then enforced.

The increasing use of machinery is not without its compensating advantages, however, for as more complicated equipment is employed a more intelligent class of labor is required for its operation, which, of course, simplifies your problem. Furthermore, the use of machinery makes the work more attractive and tends to increase tenure of service, which again reduces the number of new men to be trained in efficient practices. In the same direction the steadily decreasing number of employees on the railways by reason of the use of larger locomotives, the employment of machines, etc., tend automatically to reduce the number of inexperienced force, which fact should be reflected in your accident statistics.

Grade Crossing Problem Extends Beyond Railways

I have not yet referred to the highway grade crossing problem. Yet it is now a most pressing one and is certain to become more so in the near future. We are, as a people, rapidly entering a new era in transportation—on the highways. In this transition new problems have arisen for we have not yet adjusted ourselves to the new conditions, as is evidenced by the fact that there were 31,000 motor vehicle fatalities in 1929 and this number is increasing at the rate of 2,000 each year.

This problem extends far beyond the railways, yet in so far as the 8 per cent of the accidents that occur at crossings with the railways are concerned it is distinctly a railway problem. Here there appears to be some measure of hope for accidents at this location have not shown the same rate of increase of late as highway accidents elsewhere. Much further progress must be made in this direction, however, if the railways are to avoid widespread demands for grade separation, a solution that is as prohibitive in cost and impractical of widespread realization as it is certain in results.

There is much that you can do to make this expensive procedure unnecessary. In the first place, much remains to be done to eliminate unnecessary hazards at highway crossings. You can do no more effective work in the promotion of safety than to see that the highway grade crossings on your lines conform in full with the recommendations presented at the recent conference on street and highway safety by the Committee on the Protection of Grade Crossings.

Even when this is done you have only started on the solution of your problem for it requires even more the education of the driver of the motor vehicle to the hazards of the grade crossing and to his taking the necessary precautions for his own protection. You have already made a start in this direction through the widespread distribution of your posters and through the dissemination of other forms of literature among the communities along your line. While the fact that accidents at railway crossings are increasing less rapidly than elsewhere is an evidence of the value of this work, the future is going to require far more extensive activities in this direction. As an indication of the possibilities of educational activities, Secretary of Commerce Robert P. Lamont pointed out at the recent conference at Washington just referred to, that in seven years, while adult fatalities were more than doubling, those of children increased by less than 10 per cent. He stated further that while in 1922 children comprised more than 29 per cent of all traffic casualties this ratio dropped to less than 20 per cent in 1928 and furthermore, that the accidents to children showed an actual decrease in 1928 and again in 1929. When such results can be shown by educating children in safe habits, the way is pointed to further work among adults.

From what has been said it is evident that, splendid as has been the progress that has been made to date, the future is going to demand all this and more. I remind you of the fact that if all of the railways had attained the average casualty rate of the seven roads that received the National Safety Council awards recently for their 1929 performance, the casualties of the Class I railways would have been cut from 58,466 to 10,362. Surely here alone is a challenge to call for your best efforts. When you consider furthermore the rapidity with which the railways are developing newer and more efficient methods of operating their properties and that these methods require readjustments in habits and otherwise lead to new hazards which must be overcome, it is evident that you have a task before you that will tax your ability to the utmost.

* * *

A Lumber Shed on the Santa Fe

I. C. C. Denies Barge Line Petition

WASHINGTON, D. C.

THE Interstate Commerce Commission in a report made public on July 29 has denied the petition filed by the Inland Waterways Corporation for a modification of the order of April 8, 1929, in which it required the general establishment of through routes and joint rates via the federal barge line and the rail lines, so as to remove the restrictions in a formula prescribed by the commission as to the basis of making the joint rates. The commission has also postponed the effective date of its order to November 24, on petition of the barge line.

In the original report the commission granted a certificate of public convenience and necessity to the Inland Waterways Corporation under section 3 of the Inland Waterways Corporation Act, as amended by the Denison Act, and ordered a general establishment of through barge-rail and rail-barge-rail routes and joint rates on classes and all commodities suitable for barge transportation over the barge line, and connecting railroads, subject to certain limitations. In the case of rail-barge-rail routes the limitations were that no such route need be established where the shortest all-rail distance from point of origin to point of destination via the ports of interchange with the barge line exceeds by more than 33⅓ per cent the shortest direct all-rail distance between such origin and destination, nor where the sum of the shortest all-rail distance from the point of origin to the port of interchange where the shipment is delivered to the barge line, plus the shortest all-rail distance to the point of destination from the port of interchange where the shipment is relinquished by the barge line, exceeds two-thirds of the shortest direct all-rail distance between origin and destination.

The joint rates required to be established over the aforesaid routes were the lowest all-rail rates contemporaneously applied on corresponding traffic by the rail carriers over any route, minus differentials as follows:

(a) Where the shortest all-rail distance via the ports of interchange does not exceed the shortest direct distance by more than 20 per cent, and where the sum of the short all-rail distance, point of origin to the first port of interchange and second port of interchange to destination, does not exceed the shortest direct distance between origin and destination by more than one-half, the differential was made 20 per cent of the lowest corresponding all-rail rate between the ports; and

(b) in all other cases, it was made 10 per cent of the lowest corresponding all-rail rate between the ports.

In supplemental reports the findings were modified to provide, (1) that rail-barge rates need be established only over the shortest route over which the lowest corresponding all-rail rate applies between the inland point of origin (or destination, as the case may be) and the port of interchange, and (2) that no rail-barge-rail rate shall be lower than the corresponding all-rail rate between such point of origin or destination and the port of interchange.

The petition of the barge line asked that a further order be entered requiring the establishment of joint routes and rates between practically all points in central territory, and in portions of western trunk-line territory, on the one hand, and practically all points in Louisiana west of the Mississippi river and in Texas (except the extreme northwestern portion), on the other hand, to be applied over all "direct workable" rail routes to the ports of St. Louis and Cairo, thence over the barge line to Vicksburg, Miss., Baton Rouge or New Orleans, La., and thence over "direct workable" rail routes. To all points on and south of a line from Baton Rouge to El Paso, Tex., passing through Eunice, La., and Beaumont, Houston, and San Antonio, Tex., the Commission was asked to prescribe joint rates based on the lowest corresponding all-rail rates in effect from point of origin to destination minus 20 per cent of the corresponding local all-rail rates between St. Louis and New Orleans, whether the traffic is handled through St. Louis or Cairo as the nothern port, and whether through Baton Rouge or New Orleans as the southern port. To and from points north of the described line the differential sought is 20 per cent of the corresponding local all-rail rate between St. Louis and Vicksburg, whether the traffic is handled through St. Louis or Cairo.

"As to all traffic between the origins and destinations described," the report says, "the petition seeks to set aside all the limitations of our above described general order (hereinafter termed the formula) and to bring about the establishment of joint rates and routes subject in all cases to differentials equal to or greater than 20 per cent of the local all-rail rates between the ports of interchange, regardless of the percentage of circuity or of the proportion of rail haul to barge haul."

It is no doubt true that literal application of the formula in many instances results in undesirable differences in rates as between contiguous points although little concrete evidence of this is before us. Further, results more practicable than those which accrue from a rigid application of the formula may undoubtedly be attained in many instances by groupings of origins and destinations, applying to or from some of the grouped points rates somewhat lower and to or from others rates somewhat higher than literally provided by the formula. But it should be borne in mind that all the differences in rates as between contiguous points which result from the formula are due to natural differences of location.

We recognize that the computation of rail-barge-rail rates under the formula is a task of considerable magnitude, that considerable time will be required to complete the task if the formula is literally applied, and that in many instances undesirable results will flow from its literal application. But it must be borne in mind that the formula was promulgated under the Denison Act, which directs us to require without hearing rates, routes and differentials which in our judgment are reasonable. The formula represents only our best judgment, with the information as yet before us, of what constitutes a general basis for the construction of reasonable rates and differentials. We shall be glad to consider suggestions from any source for improvements in the formula.

As recognized in the second supplemental report herein, 161 I. C. C. 207, where rates on rice from certain points in Arkansas to Battle Creek, Mich., were under consideration, undoubtedly in many individual instances rates somewhat different from those resulting from a literal application of the formula are in the public interest. We are inclined to agree with the barge line that more satisfactory results may be expected from individual consideration of particular situations than through the medium of a general formula which attempts to meet all situations. But we were required by the Denison Act to proceed in a general way without evidence bearing upon individual situations. Nor does the blanket petition now before us contemplate individual consideration of particular situations. It presents no concrete facts with respect to the distances or transportation conditions surrounding traffic from and to the areas described. In effect it amounts to nothing more than a request that we set aside all the limitations of the formula in the matter of rates from and to the large areas embraced in the application. It affords no basis for modifying the formula in such ways as may be necessary or desirable to meet the difficulties which arise in particular cases in the construction of rates from and to the territories in question. We conclude that the petition should be denied. We are, however, of the opinion that the rail carriers and the barge line should co-operate in minimizing the time and work required to compute rates under the formula and in devising ways in which it may be modified, if necessary, in order to produce practical results in particular situations as expeditiously as possible. If desired, our representatives will lend their assistance to this end as far as possible.

Although the petition asks no modification of the provision of the amended formula to the effect that barge-rail and rail-barge-rail rates need be established only over the shortest route between the inland point of origin (or destination, as the case may be) and the port of interchange, the averments of the petition lead us to conclude that some change should be made in this provision. In providing only for the publication of rates over the shortest routes to and from the ports, we assumed that other routes would for competitive reasons adopt the same rates in most instances. The petition now before us alleges that in many instances the rail carriers are declining to publish the prescribed rates over any routes other than the shortest. Often the service over the shortest routes is less satisfactory and sometimes even more expensive than over slightly longer "workable" routes. Proviso (e) of Finding 2, page 136 of our original report as modified, is therefore modified to read as follows:

> (e) no barge-rail or rail-barge-rail route need be established except over the shortest "working" route *(i.e.,* the shortest route regularly used for the transportation of freight traffic in general) between the inland point of origin (or destination, as the case may be) and the port of interchange over which the lowest corresponding rate between such points applies;

It has come to our notice that the modified order of May 15, 1930, provides that no joint barge-rail or rail-barge-rail rate established under the formula

> to or from any given point of origin or destination shall be lower than the corresponding all-rail rate between such point of origin or destination and the port of interchange;

Read literally, this would apparently prohibit any lower rate under such circumstances, whereas it was intended to go no further than to remove the requirement of the original formula that lower rates be established in all instances where the formula would produce such a result. Accordingly the order of May 15, 1930, will be amended so as to substitute the word "need" for the word "shall" in the clause now reading "to or from any given point of origin or destination shall be lower than."

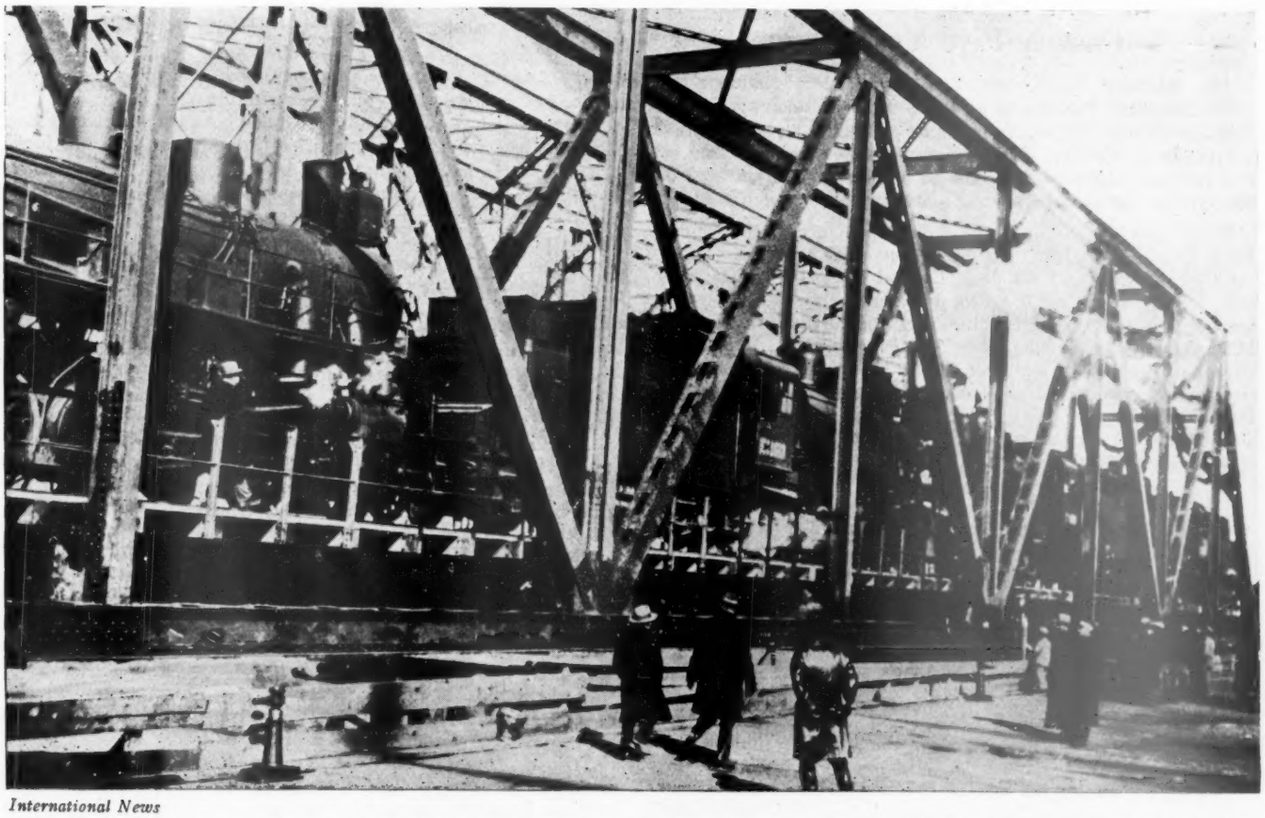
An appropriate order denying the petition and modifying the previous orders will be entered.

The commission has settled a dispute between the Warrior River Terminal Company, a subsidiary of the barge line, and the commission's Section of Tariffs, by deciding, after an investigation, that the company's tariff denominating as switching the service performed between Birmingport, Ala., and points of interchange with connecting lines is lawful and that the Inland Waterways Corporation tariff providing for the absorption of these charges within its Birmingport switching district is lawful. The Section of Tariffs had held that to permit the filing of rates for line haul transportation under the guise of switching charges would defeat the purpose of certain sections of the act.

* * * *

JUDGE HORACE D. DICKINSON of the United States District court at Minneapolis, Minn., signed an order on July 21, granting the Chicago, Milwaukee, St. Paul & Pacific's petition for the transfer of the grade separation case between the railroad and the city from the Hennepin County district court to the United States District court. The grade separation controversy started several years ago when the railroad and the city were unable to agree upon the type of separation to be used. The railroad has favored elevation while the city has endeavored to force the railroad to depress its tracks.

FOUR OF THE LEADING GERMAN LOCOMOTIVE MANUFACTURERS, faced by the necessity of dismissing 6,000 workmen because of a scarcity of orders, have formally requested the German government to include in its program for unemployment relief an immediate order for the construction of several hundred locomotives, according to Modern Transport (London). For years past, their petition declares, they have been receiving wholly inadequate orders from the National Railways. For a while foreign orders made up this deficiency, but of late even these orders have been falling off, despite substantial sacrifices in the prices received for the finished locomotives.



International News

The First Four Locomotives to Cross the Chinese Eastern's New Sungari Bridge at Harbin, Manchuria, Marking the Completion of an Extensive Improvement Program

Looking Backward

Fifty Years Ago

Freight business on most western railways is now immense, and every wheel is needed to dispose of the rush of agricultural products and merchandise. Lack of cars and locomotives represents the greatest complaint. The shops are crowded with orders for new equipment, some roads are leasing locomotives and cars from others, passenger engines are pressed into freight service, and practically all machinery is compelled to do double duty.—*Railway Age,* August 5, 1880.

As a part of its new short route between Sacramento, Cal., and San Francisco, the Central Pacific has inaugurated a steam ferry service on which trains are transferred across the Straits of Carquinez from Benicia to Port Costa. It was first proposed to construct a bridge over the straits but the difficulties were so great that the idea was finally abandoned. The ferry boat, which is probably the largest in the world, has an over-all length of 424 ft. and an extreme width of 116 ft. It has a capacity of 48 freight cars, with locomotive, or 24 passenger coaches.—*Railroad Gazette,* July 30, 1880.

The Louisville & Nashville now operates 1,702 miles of road, which will be increased during the year by the completion of lines under contract, to 1,840 miles, making it the ninth largest system in the country from the point of mileage. It is still exceeded by the Pennsylvania, the Union Pacific, the Central Pacific [now part of the Southern Pacific], the Chicago, Milwaukee & St. Paul [now the Chicago, Milwaukee, St. Paul & Pacific], the Chicago & North Western, the Chicago, Burlington & Quincy, the Illinois Central (including its New Orleans line) and the Baltimore & Ohio, if we include the Ohio & Mississippi and the Marietta & Cincinnati, which are virtually owned by the same interest.—*Railway Age,* August 5, 1880.

Twenty-Five Years Ago

The Southern Pacific, which is chartered in Kentucky, has offered to settle the enormous claim for back taxes on its franchises which the Kentucky authorities recently resurrected, by a payment of $48,000. The state and county together claim several million dollars as taxes on an assumed valuation of $300,000,000 for the past five years.—*Railway Age,* August 4, 1905.

W. G. Bierd, assistant to the general manager of the Chicago, Rock Island & Pacific, has been appointed superintendent of the Chicago Terminal division. Conrad E. Spens, assistant general freight agent of the Chicago, Burlington & Quincy, has been appointed general freight agent of the lines west of the Missouri river at Omaha, Neb. W. H. Williams, formerly assistant to the general manager of the Baltimore & Ohio and afterward superintendent of freight transportation of the Rock Island, has been appointed traffic manager of the Merchants and Manufacturers' Association of Pittsburgh, Pa.—*Railway Age,* August 4, 1905.

Ten Years Ago

R. W. Anderson, assistant superintendent of motive power of the Chicago, Milwaukee & St. Paul, Lines East, has been appointed superintendent of motive power of those lines, at Milwaukee, Wis.—*Railway Age,* July 30, 1920.

The six million dollar wage increase granted railway employees by the Railroad Labor Board proved a disappointment to the brotherhood leaders who demanded almost double that amount. When the grand council, composed of the chiefs of the 16 organizations, started the third day of deliberations over the award at Chicago on July 23, five brotherhoods had accepted it outright, eight more had recommended to their membership that it be accepted and one brotherhood had rejected it.—*Railway Age,* July 30, 1920.

New Books

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

The Balance of International Payments of the United States in 1929, by Ray Hall, with a Foreword by R. P. Lamont. The expenditures for freight (ocean, Great Lakes, and land transit), and by tourists (p.v.), "Freight payments and receipts" p. 9-11, which includes "United States Railway Earnings on Transit Traffic," and the discussion of tourist expenditures in Canada, Mexico, West Indies, and Europe, may be of interest. Trade Information Bulletin No. 698. 74 p. Pub. by U. S. Govt. Print. Off., Washington, D. C. 10 cents.

The Labor Banking Movement in the United States, prepared by the Industrial Relations Section, Princeton University. Takes up the background of the movement, the growth of the movement 1920-1926, the purposes of organization of labor banks, circumstances and methods of organization, unique features, relations and attitudes, policies and problems, and the success of the movement from the banking standpoint and the labor standpoint. Appendix B gives historical summaries of individual labor banks. Bibliography, p. 355-370. 377 p. Pub. by Industrial Relations Section, Princeton University, Princeton, N. J. $2.50.

Railway Returns—Returns of the Capital, Traffic, Receipts and Working Expenditure, Etc., of the Railway Companies of Great Britain for the Year 1929. 140 p. Pub. by H. M. Stationery Office, London, England. 6 shillings, sixpence. Available in this country through British Library of Information, New York City.

Periodical Articles

Do Railways Set the Pace for Business? by William S. Dutton. "Improved transportation has made the present pace, volume, and efficiency of business possible. . . . " p. 44. "By cutting two days off freight schedules between southern canteloupe patches and northern markets, thus permitting the farmers to leave their melons two days longer on the vines, the railroad's new program has given us riper and juicier canteloupes. And fresher eggs, sweeter milk, faster mails, and strawberries in January. . . . " p. 46. Nation's Business August, 1930, p. 44-46, 104-106.

Edward J. Pearson Who Rebuilt The New Haven, by William Pickett Helm. "Pearson's hard work with the New Haven began in 1914, when he was brought up from Texas as assistant to Howard Elliott, then president and chairman of the road. . . . This story is not told as he, in his modesty, would tell it; but the New Haven, a new New Haven testifies for him. . . . " World's Work, August 1930, p. 33-37.

A Giant New Freight Terminal for the Southwest. Interview with A. P. Titus. "Illinois Terminal Railroad System will build twenty-story skyscraper in the heart of downtown St. Louis. . . . Entire development electrified." The Executive's Magazine, July, 1930, p. 18-19.

How We Are Using the Motor Bus to Promote Co-ordinated Transportation. Interview with P. J. Neff. "In a year and a half, the Missouri Pacific Railroad, through its subsidiary, the Missouri Pacific Transportation Company, has built a 4,000-mile bus line, operating 200 buses and serving eight states." The Executive's Magazine, July, 1930, p. 22-23, 32-35.

Necessity for Strict Obedience of Air Traffic Rules Emphasized. Describes and discusses air traffic rules. Illustrated. Air Commerce Bulletin, July 1, 1930, p. 1-10.

Scottish Congress Section No. 1. Compiled in connection with the Glasgow Congress of the Institute of Transport, this section describes transportation facilities from ancient roads to the experimental rail-plane (p. ix) Modern Transport, July 5, 1930, p. 1-xxxii.

Odds and Ends of Railroading

Locusts Again

Although swarms of locusts sufficiently dense to stop trains have been recorded on more than one occasion, still it is rare enough, compared to snow and sand storms, floods and other obstacles to rail traffic. An instance of this kind occurred recently in Morocco, when a Casablanca-Fez train was delayed at Tizza for two hours by locusts which covered the rails so thickly that the locomotive could not move.

Human Encyclopedia

Rudolph H. Kiehm, who has been at the information booth in the La Salle Street Station, Chicago, ever since its establishment some eleven years ago, has answered at least two million questions. To the average traveler the man at the information desk is considered an oracle, and is expected to be able to answer not only questions pertaining to train service all over the United States, but also to supply any general information that might be sought.

Two Unusual Railroaders

Colonel W. H. Harrison, of Lexington, Ky., not only has the enviable record of 50 years of continuous service with the Louisville & Nashville, but he has spent that time on the same job, with the same headquarters. In November, 1879, the colonel was appointed traveling passenger agent at Lexington, and he has served in that capacity ever since.

W. B. Sherwood of Ewing, Ky., is just a month shy of Col. Harrison's record. On January 1, 1880, Mr. Sherwood was appointed agent for the L. & N. at Ewing, and, on January 1 this year, he rounded out 50 years continuous service on the same job.

Raising A Family Under Difficulties

The Tacoma, Wash., yard of the Milwaukee took a godfather's interest in a family of robins nesting in a bad order air dump car on a storage track recently, when it was discovered that the nest contained three blue eggs. For several weeks the car and nest remained undisturbed, and as the date for the hatching approached the superintendent's office issued an order to the yardmaster, placing the stamp of approval on the family, as follows:

"Under no circumstance is that car to be moved. Air dump No. X905055 must stay. If possible, don't even move the other cars on the same track. But first and last, keep that car stationary until the eggs are not only hatched but until the robins can fly."

Motoring to Churchill on Hudson's Bay

While all Canada has been celebrating the first anniversary of "steel's reaching Churchill" on Hudson's Bay and the operation of mixed trains on the Hudson Bay Railway between The Pas, Man., and Churchill, beginning May 3, a group of Canadian National engineers are acclaiming the first motor vehicle to reach the shores of the Bay under its own power. Preceding by many months the laying of the last steel J. G. MacLachlan, district engineer of construction at The Pas, H. G. Reid, assistant general superintendent of motive power at Winnipeg, and J. E. O'Day, locating engineer, have the distinction of being the first to motor to Churchill. Their "motor" was a Ford automobile rigged with caterpillar treads in the rear and skis in front.

Hauling the Bull

One of the most unusual freight shipments ever transported over a railroad was carried by the Pennsylvania from New York to Chicago recently. An immense stone bull, once the property of the ruler of Assyria in 1800 B. C., and weighing 20 tons, rode on a flat car from New York to Chicago to be added to the University of Chicago's Oriental museum. This "largest stone bull in captivity" was only part of a total shipment of stone amounting to 210 tons which the University of Chicago made. Packed in 85 cases and crates, the stone was transported in five cars. Four of them were able to pass through the Pennsylvania tunnels between New York and Chicago, but the fifth, Sargon the Second's stone image of a bull, was too large for a modern tunnel. The car on which it traveled had to be detoured 1,500 miles before reaching Chicago.

Canadian Pacific Trainmen Free Trapped Moose

It took a wire fence bordering the Canadian Pacific tracks between Gracefield, Que., and Eagle to catch a large cow moose which had successfully dodged hunters and wolves for the first five years of its life in the Gatineau hills. The animal when jumping the fence on to the railway right-of-way misjudged its jump and caught its hind legs in the wire.

The plight of the denizen of the bush was discovered by William McKnight, engineman of a Canadian Pacific way freight. Having a few minutes to spare and being of a humanitarian nature, McKnight stopped the train and he and other members of the crew armed with a hammer and bar from the locomotive succceeded in freeing the moose. Later the moose was shot after it was discovered that one of its legs had been broken in the futile attempts to free itself.

Higher Mathematics

Timekeepers on the Italian State Railways, it would seem, must be expert mathematicians, certainly with some knowledge of calculus. They need it to figure the rates of pay of enginemen and firemen. As explained by an Italian road foreman of engines, there is a basic rate for these men. This is subject to a percentage increase for every five years of satisfactory service. To this rate is added the working rate, which is based on the number of kilometers run and the time consumed in making the run. A further percentage is added for fuel economy, together with additional pay for night operation. In freight service, the tonnage handled is also taken into consideration. The rates of pay in engine service run from 1,200 lire to 2,100 lire per month, the lira being quoted at five cents, United States money. These involved calculations are a part of the general plan on the Italian railways to bring about orderliness and efficiency in operation, a plan which is proving more successful each year.

* * *

An Unusual View of Three Trains Taken at Osgood, Pa.

Below is a passenger train on the old-line of the Bessemer & Lake Erie. The train crossing the bridge is on the Franklin Branch of the New York Central. In the background is a freight train on the K O Line of the Bessemer. The Erie crosses the New York Central a few hundred feet east of the point where this picture was taken.

NEWS *of the* WEEK

On the Indiana Harbor Belt near Chicago

Safety Rules for Linemen

The Committee on Education of the American Railway Association, E. R. Cott, chairman, devotes its program for the month of August to questions of safety connected with the work of men in the signal department, telegraph linemen, and electrical workers. The colored poster which is issued in connection with the monthly circular illustrates different kinds of carefulness and carelessness on the part of workmen in these departments.

The records of the Interstate Commerce Commission for 1929 show that the casualty rate for these workers is higher than the average, indicating the necessity for increased educational work on the part of the safety superintendents.

Salient points in the rules for these departments, as set forth by the committee, include the following: Employees operating motor cars should be examined to see that they fully understand the rules covering operation of such cars; overloading inspection cars with poles or other heavy objects should be carefully avoided; before climbing a telegraph pole it should be tested with a bar at the ground line to determine that it is safe; safety belts should be tested, not merely examined.

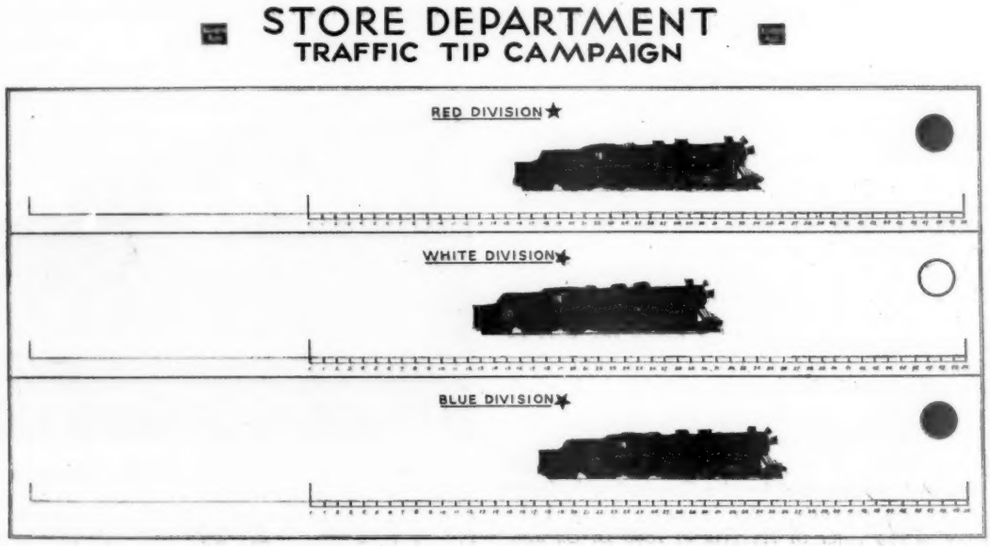
Rubber gloves and insulating blankets should be required strictly according to the rules. Higher voltage lines, when on the same poles with telegraph wires, should be marked on each cross arm with a warning.

Burlington Stores Business Getter

The general stores office of the Chicago, Burlington & Quincy at Chicago has devised a unique method of carrying out its part of a campaign to help the road get traffic during the summer. The office force, including the officers, has been divided into three sections, each representing a division, with the personnel of each serving as a train crew, and a poster is used on which three locomotives, one for each division, are moved from right to left across the poster as fast as each crew brings in a tip that produces traffic. The locomotives are represented by large photographs pasted on cardboard and are held in position on the poster by means of a string with a rubber band attached to maintain the tension.

Lines are marked at intervals, with numbers running from 1 to 50 to serve as the track, and the locomotives are moved from one number to the next by the strings until they have completed a trip, whereupon a gold star is pasted on the placard and the locomotive moved back to the starting point for another trip. The divisions are designated respectively as the red, white and blue divisions. Attached to the bottom of the poster is a list of the crew of each train, consisting of a conductor, an engineman, a head brakeman, a rear brakeman, a fireman, a flagman, two baggagemen, a pullman conductor, stewards, express messengers, mail clerks and porters. In this roster, which is changed daily, the positions held by the individuals depend upon the number of tips each produces, which gives the office boy as much chance to be engineman as the general storekeeper.

The plan on the Burlington has been to give each floor and department of the general office a quota, and the poster was created in the general stores office as a result of a "get together meeting" to develop a method of stimulating more interest in that department. The stores office, which had a quota of 70 tips, was running behind, but from June 4 to July 15, under the new plan, 327 tips were submitted, or an average of 170 per month.



The Locomotives are Moved from Left to Right in the Traffic Tip Poster

and the interest is continuing at a high pitch, with the result that the department's quota will easily be exceeded.

Meetings and Conventions

The following list gives names of secretaries, date of next or regular meetings and places of meetings.

AIR BRAKE ASSOCIATION.—T. L. Burton, Room 5605, Grand Central Terminal Building, New York City. Next meeting, Toronto, Ont., 1931. Exhibit by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—Fred W. Venton, Crane Company, 836 So. Michigan Blvd., Chicago. Meets with Air Brake Association.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—J. D. Gowin, 112 W. Adams St., Chicago.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 S. Michigan Ave., Chicago.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York. Annual meeting, October 7-9, 1930, Atlantic City, N. J.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—J. Rothschild, Room 400, Union Station, St. Louis, Mo.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—J. H. Hawley (B. R. & P. Ry.) E. Salamanca, N. Y.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York.

AMERICAN RAILWAY ASSOCIATION.—H. J. Forster, 30 Vesey St., New York, N. Y.
Division I.—Operating.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Freight Station Section.—R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York.
Protective Section.—J. C. Caviston, 30 Vesey St., New York.
Safety Section.—J. C. Caviston, 30 Vesey St., New York.
Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York. Next convention, Sept. 16-19, 1930, Royal York Hotel, Toronto, Ont.
Division II.—Transportation.—G. W. Covert, 59 East Van Buren St., Chicago.
Division III.—Traffic.—J. Gottschalk, 143 Liberty St., New York.
Division IV.—Engineering.—E. H. Fritch, 59 East Van Buren St., Chicago. Next meeting, March 10-12, 1931, Palmer House, Chicago. Exhibit by National Railway Appliances Association.
Construction and Maintenance Section.—E. H. Fritch. Next meeting, March 10-12, 1931, Palmer House, Chicago.
Electrical Section.—E. H. Fritch.
Signal Section.—H. S. Balliet, 30 Vesey St., New York. Next meeting Arlington Hotel, Hot Springs, Ark., September 9-11, 1930.
Division V.—Mechanical.—V. R. Hawthorne. 59 East Van Buren St., Chicago.
Equipment Painting Section.—V. R. Hawthorne, 59 East Van Buren St., Chicago. Next convention, September 9-11, 1930, Congress Hotel, Chicago. Exhibit by Supply Men's Association.
Division VI.—Purchases and Stores.—W. J. Farrell, 30 Vesey St., New York, N. Y.
Division VII.—Freight Claims.—Lewis Pilcher, 59 East Van Buren St., Chicago. Next meeting, 1931, Louisville, Ky.
Division VIII.—Motor Transport.—George M. Campbell, 30 Vesey St., New York, N. Y.
Car Service Division.—C. A. Buch, 17th and H. Sts., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W. Ry., 319 N. Waller Ave., Chicago. Annual convention, October 21-23, 1930, Brown Hotel, Louisville, Ky. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—A. W. Large, Gen. Agri. Agt., C. R. I. & P. Ry., Chicago, Ill. Annual meeting, 1931, Philadelphia, Pa.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in co-operation with the American Railway Association, Division IV.—E. H. Fritch, 59 East Van Buren St., Chicago. Next meeting March 10-12, 1931, Palmer House, Chicago. Exhibit by National Railway Appliances Association.

AMERICAN RAILWAY MAGAZINE EDITORS ASSOCIATION.—Miss E. Phillips, N. Y. N. H. & H. Magazine, New Haven, Conn. Next meeting, June, 1931, Philadelphia, Pa.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION, G. G. Macina, C., M., St. P. & P. R. R., 11402 Calumet Ave., Chicago. Annual convention, September 10-12, 1930, Hotel Sherman, Chicago. Exhibit by Supply Association of the American Railway Tool Foreman's Association.—Acting Secretary: H. W. Leighton, Harry W. Leighton Co., 565 W. Washington St., Chicago.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—Union Trust Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—Calvin W. Rice, 29 W. 39th St., New York. Railroad Division, Paul D. Mallay, Johns-Manville Corp., 292 Madison Ave., New York.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1104 Chandler Building, Washington, D. C. Next meeting, January 27-29, 1931, Philadelphia, Pa.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, District Claim Agent, Northern Pacific Ry., St. Paul, Minn. Annual convention, June, 1931, Toronto, Ont.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Station. Chicago. Annual convention, October 21-24, 1930, Hotel Sherman, Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Stanley J. Strong, Transportation Building, Washington, D. C.

ASSOCIATION OF RAILWAY SUPPLY MEN.—J. W. Fogg, MacLean-Fogg Lock Nut Co., 2649 N. Kildare Ave., Chicago. Meets with International Railway General Foremen's Association.

BOILERMAKERS' SUPPLY MEN'S ASSOCIATION.—Frank C. Hasse, Oxweld R. R. Service Company, 230 N. Michigan Ave., Chicago. Meets with Master Boiler Makers' Association.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—W. H. Lawrence, Johns-Manville Corp., 41st St. and Madison Ave., New York. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 208 Wilson Ave., N. D. G., Montreal, Que. Regular meetings, 2nd Monday in each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, Chicago & Alton, 3001 W. 39th Place, Chicago. Regular meetings, 2nd Monday in month, except June, July and August, Great Northern Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF LOS ANGELES—J. W. Krause, Room 299, 610 So. Main St., Los Angeles, Cal. Regular meetings, second Monday of each month, except July, August and September, Room 299, 610 So. Main St., Los Angeles.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—F. G. Wiegman, 720 N. 23rd St., East St. Louis, Ill. Meetings first Tuesday of each month, except July and August, American Hotel Annex, 6th and Market Sts., St. Louis, Mo.

CENTRAL RAILWAY CLUB OF BUFFALO.—W. H. Newman (President), New York Central Railroad, Buffalo, N. Y. Regular meetings, 2nd Thursday each month, except June, July, August, Hotel Statler, Buffalo, N. Y.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.—(See Master Car Builders' and Supervisors' Association.)

CINCINNATI RAILWAY CLUB.—D. R. Boyd, 453 E. 6th St., Cincinnati, Ohio. Meetings 2nd Tuesday in February, May, September and November.

CLEVELAND RAILWAY CLUB.—F. L. Frericks, 14416 Alder Ave., Cleveland, Ohio. Meetings, first Monday each month, except July, August, September, Hotel Hollenden, Cleveland.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Annual meeting, September 23-25, 1930, Hotel Morrison, Chicago. Exhibit of International Railroad Master Blacksmiths' Supply Men's Association.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.—J. H. Jones, Crucible Steel Company of America, 650 Washington Blvd., Chicago. Meets with International Railroad Master Blacksmiths' Association.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—C. T. Winkless, Room 700, La Salle Street Station, Chicago. Exhibit by International Railway Supply Men's Association.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabasha St., Winona, Minn. Annual Convention, September 16-19, 1930, Hotel Sherman, Chicago.

INTERNATIONAL RAILWAY SUPPLY MEN'S ASSOCIATION.—L. R. Pyle, Locomotive Firebox Co., 310 So. Michigan Ave., Chicago. Meets with International Railway Fuel Association.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y. Exhibit by Boiler Makers' Supply Men's Association.

MASTER CAR BUILDERS' AND SUPERVISORS' ASSOCIATION.—A. S. Sternberg, M. C. B. Belt Ry. of Chicago, 7926 South Morgan Street, Chicago. Next convention August 26-28, 1930, Book Cadillac Hotel, Detroit. Exhibit by Supply Men's Association.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—James B. Walker, 270 Madison Ave., New York, Annual Convention, November 12-15, 1930, Charleston, S. C.

NATIONAL ASSOCIATION OF RAILROAD TIE PRODUCERS.—Roy. M. Edmonds, 1252 Syndicate Trust Bldg., St. Louis, Mo.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. W. Kelly, 1014 South Michigan Ave., Chicago. Exhibit at A. R. E. A. convention.

NATIONAL SAFETY COUNCIL.—Steam Railroad Section: W. A. Booth, Can. Nat. Rys., Montreal, Que., Can. Annual Congress, September 29-October 4, William Penn and Fort Pitt Hotels, Pittsburgh, Pa.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, 2nd Tuesday in month, excepting June, July, August and September, Copley-Plaza Hotel, Boston, Mass.

NEW YORK RAILROAD CLUB.—E. Sumner (President), Asst. to Gen. Supt. M. P. Penna. R. R., Philadelphia, Pa. Regular meetings, 3rd Friday in month, except June, July and August, 29 W. 39th St., New York City.

PACIFIC RAILWAY CLUB.—W. S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings 2nd Thursday in month, alternately in San Francisco and Oakland.

RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.—E. R. Woodson, 1124 Woodward Building, Washington, D. C. Annual convention, 1931, Mexico City, Mex.

RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 1112 Shoreham Building, Washington, D. C. Next meeting, November, 1930, Commodore Hotel, New York, N. Y.

RAILWAY CAR DEPARTMENT OFFICERS' ASSOCIATION.—(See Master Car Builders' and Supervisors' Association.)

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1841 Oliver Building, Pittsburgh, Pa. Regular meetings, 4th Thursday in each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—Edward Wray, 9 S. Clinton St., Chicago. Meets with Association of Railway Electrical Engineers.

RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.—F. W. Venton, Crane Co., 836 S. Michigan Ave., Chicago. Meets with Traveling Engineers' Association.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md. Next meeting, October 21-23, 1930, St. Louis, Mo.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa. Meets with Mechanical Division, Purchases and Stores Division and Motor Transport Division, American Railway Association.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York. Meets with Telegraph and Telephone Section of A. R. A. Division I.

RAILWAY TREASURY OFFICERS' ASSOCIATION.—L. W. Cox, 1217 Commercial Trust Bldg., Phila, Pa.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—T. F. Donahoe, Gen. Supvr. Road, Baltimore & Ohio, Pittsburgh, Pa. Exhibit by Track Supply Association. Next meeting, September 16-18, 1930, Hotel Stevens, Chicago.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Drawer 24, M. P. O., St. Louis, Mo. Regular meetings, 2nd Friday in month, except June, July and August.

SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmunds, West Nyack (Rockland Co.), N. Y. Meets with A. R. A. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, P. O. Box 1205, Atlanta, Ga. Regular meetings, 3rd Thursday in January, March, May, June, September and November, Ansley Hotel, Atlanta.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—R. G. Parks, A. B. & C. Ry., Atlanta, Ga.

SUPPLY MEN'S ASSOCIATION.—E. H. Hancock, Treasurer, Louisville Varnish Co., Louisville, Ky. Meets with A. R. A. Div. V. Equipment Painting Section.

SUPPLY MEN'S ASSOCIATION.—Bradley S. Johnson, W. H. Miner, Inc., 667 The Rookery Building, Chicago. Meets with Master Car Builders' and Supervisors' Association.

TRACK SUPPLY ASSOCIATION.—L. C. Ryan, Oxweld Railroad Service Co., Carbon & Carbide Building, Chicago. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 East 98th St., Cleveland, O. Annual meeting, September 23-26, 1930. Hotel Sherman, Chicago. Exhibit by Railway Equipment Manufacturers' Association.

WESTERN RAILWAY CLUB.—W. J. Dickinson, 343 So. Dearborn St., Chicago. Regular meetings 3rd Monday each month, except June, July and August.

Traffic

B. & O. New York Trucking Plan Suspended Temporarily

The Baltimore & Ohio has suspended temporarily its co-ordinated rail-motor truck service which had been operating since July 15 between B. & O. terminals on Staten Island and the doors of its Manhattan patrons in New York City. The plan, as outlined in the *Railway Age*, Motor Transport Section of July 26, page 213, involved the handling by motor truck of carload, unrestricted, nonperishable freight and was the B. & O.'s attempt to comply with the suggestions of the Interstate Commerce Commission regarding freight trucking in New York. The suggestions of the commissions were expressed in its decision of August, 1929, permitting the carriers serving New York to cancel their "constructive" station tariffs and to limit the practice of trucking in lieu of lighterage to interchanges of freight between railroads and between railroads and steamship lines.

The present suspension is declared by B. & O. officers to be but temporary and to have been invoked in order to permit a discussion of the situation by Eastern trunk line executives at a meeting, held July 31.

Meanwhile, four New York terminal companies, the Bush Terminal, New York Dock Railway, Brooklyn Eastern District Terminal and Jay Street Terminal have brought suit against the B. & O. in the Federal Court at Baltimore, charging that the new service is a violation of the Interstate Commerce Act. The complaint of these terminal companies alleges, among other things, that the service constitutes an extension of the B. & O. line and as such, requires the procurement of a certificate of convenience and necessity. The B. & O. will issue a general denial of all allegations.

Intrastate Rates Found Not Discriminatory

The Interstate Commerce Commission on July 29 made public two decisions, based on petitions of the carriers, in which it found that the maintenance of rates prescribed by state authority in Louisiana and Iowa, different from the interstate basis, had not been shown to result in discrimination against interstate commerce. The Louisiana case involved rates on bagging and ties, bags and bagging, green coffee, fertilizer and fertilizer materials, furniture, glass bottles and jars, molasses and syrups, sugar, and vinegar as to which the Louisiana Public Service Commission declined to authorize the application of the system of class and commodity rates prescribed by the federal commission for interstate traffic in the Consolidated Southwestern Case.

The decision says that the railroads have presented insufficient evidence from which to conclude that the disparity in the interstate and intrastate rates operates as a real discrimination against interstate commerce.

The Iowa case involved a distance scale of commodity rates on fresh meats and packing house products. The record shows no consistent rate structure as being applicable to the interstate movement of this traffic from and to points in Iowa and the record is held not sufficiently comprehensive to justify an attempt to fix a reasonable basis of interstate rates which could be accepted as a standard and with which other scales could be compared. This finding, says the commission, is not to be construed as indicating that it regards as maximum reasonable rates on this traffic either the Iowa intrastate rates or the various interstate rates which approximate the level of those in Iowa.

Sand and Gravel Rates in Mississippi Valley

The Interstate Commerce Commission has found justified, except in certain particulars, the revision proposed by the railroads of interstate freight rates on sand, gravel, crushed stone, slag and chert, to and from points in Mississippi Valley territory, on the basis of the distance rates prescribed by the commission in a proceeding involving rates on the same commodities in southeastern territory. The proposed rates had been suspended and are now required to be cancelled without prejudice to the filing of new schedules in conformity with the commission's findings. This is the case in which Senator McKellar, of Tennessee, protested against the proposed revision, both in speeches in the Senate and in a letter addressed to the commissioners after the argument was closed, which letter the commission made part of the record by treating it as a brief to which other parties were allowed to reply. Although the report of the commission answers many of the arguments he made, the Senator's name is not mentioned in the report itself, although he is included in the list of counsel as appearing "pro se."

The proposed rates would place all the remaining interstate rates within the Mississippi Valley territory and those between that territory and the Southeast on the same southeastern basis, resulting in both increases and reductions as compared with present rates. The localities in which material increases will result, the report says, "have been enjoying lower rates than are now to be found in any adjudicated rate scale on such commodities anywhere in the country." It is noted that the proposed rates would increase most of the present municipal rates while as to the commercial rates some would be increased and others reduced, and many public officials from communities interested protested that the cost of roadbuilding would be increased.

A point of controversy in the case was as to whether conditions in the "valley" territory justify the same basis of rates as the Southeast. The report says:

> A careful review of all the evidence here presented bearing upon traffic, transportation and other conditions leads to the conclusion that there is no material difference between the traffic density of the Valley territory and the average density of the whole of southeastern territory; that the operating conditions in the Valley territory appear somewhat superior to those within certain parts of southeastern territory, but not superior to those prevailing within other and substantial parts of southeastern territory, and that they have been shown to be sufficiently similar in the Valley to the average operating conditions of southeastern territory to justify the same level of rates for the whole. Taking into consideration, not only operating and traffic conditions, but also the closely related commercial and competitive conditions which exist in the commodities here under consideration as well as on traffic generally, there is no more justification for separating the Valley territory from the balance of southern territory for rate-making purposes than there is for separating other parts. To split up into segments for rate-making purposes a homogeneous section such as is southern territory would bring about undesirable and unsatisfactory results. The rate structure would become complicated and numerous complaints of discrimination all along the arbitrary boundaries would arise.

The commission's finding is that respondents have justified the use of the standard line scale of rates prescribed in the southeastern case, to be applied under a distance formula the same as that prescribed in that case; but that to the extent that the suspended schedules propose any higher rates than the basis approved they have not been justified; except that so-called short or weak lines, with the elimination of the Gulf, Mobile & Northern and the Columbus & Greenville, have justified an arbitrary of 25 cents a ton in addition to the standard line scales.

Air-Rail Route Established Between Spokane and New York

The Chicago & North Western and the Mamer Air Transport Company have established rail-and-air service between the Pacific Northwest and the Atlantic Coast. The extension of service from the Twin Cities to Spokane supplements the service established by the Chicago & North Western and the Kohler Aviation Company a few weeks ago from Chicago to Milwaukee and across Lake Michigan to Grand Rapids, Mich. This hook-up reduces the schedules between Spokane, Wash., and New York from 81 hr. to 44 hr. 30 min., elapsed time. Schedules between Chicago and Spokane will be cut to 23 hr. on the eastbound trip.

Planes will operate on daylight schedules of 11 hr. between Spokane and the Twin Cities, leaving Spokane at 7:00 a. m. and arriving in St. Paul at 8:00 p. m. At St. Paul the passengers may board the North Western Limited which leaves at 8:40 p. m. and arrives in Milwaukee the next morning in time to catch the 6:15 plane from Milwaukee to Grand Rapids, Mich. There the passengers can take a Michigan Central train to New York, where they will arrive at 6:30 a. m. the following morning. Westbound trains and planes will make connections at the same transfer point, operating on a 46 hr. and 50 min. schedule. Passengers from Chicago to Spokane will move on a 24 hr. 30 min. schedule, traveling from Chicago to St. Paul on the North Western Limited.

On the plane trip from St. Paul to Spokane, stops will be made at Aberdeen, S. D., Miles City, Mont., Billings, Butte and Missoula. Trips each way will be made tri-weekly, leaving St. Paul and Minneapolis on Tuesdays, Thursdays and Saturdays, and leaving Spokane on Mondays, Wednesdays and Fridays. The planes used in the new service are Buhl air sedans. Baggage allowance on the planes will be 30 lb. per passenger. Rates for the new service are approximately equal to the cost of the rail ticket, plus incidental expenses of an all-rail trip.

Equipment and Supplies

Locomotives

THE INTER-STATE IRON COMPANY, a subsidiary of the Jones & Laughlin Steel Corporation, Pittsburgh, Pa., is inquiring for three locomotives.

Freight Cars

THE INTER-STATE IRON COMPANY, a subsidiary of the Jones & Laughlin Steel Corporation, Pittsburgh, Pa., has ordered 42 air dump cars from the Koppel Industrial Car & Equipment Company.

THE ANGLO-CHILEAN CONSOLIDATED NITRATE CORPORATION has ordered 350 steel ore cars of 30 tons' capacity from the Koppel Industrial Car & Equipment Company. Inquiry for this equipment was reported in the *Railway Age* of June 21.

THE CANADIAN NATIONAL has ordered 400 refrigerator cars of 40 tons' capacity. The railroad company will build 200 of these cars in its London, Ont., and Winnipeg, Man., shops and the Eastern Car Company will build 200 at New Glasgow, N. S. These cars are to have steel underframes and divided basket bunkers.

Iron and Steel

THE GREAT NORTHERN is inquiring for 9,000 tons of rails and fastenings for its new line from Klamath Falls, Ore., to Paxton, Cal.

THE VIRGINIAN has ordered 2,000 tons of steel for a bridge at Deep Water, W. Va., from the Virginia Bridge & Iron Company.

THE CHESAPEAKE & OHIO has ordered 58,600 tons of rails as follows:

25,000 tons	Illinois Steel Company
19,300 tons	Inland Steel Company
8,800 tons	Bethlehem Steel Company
5,500 tons	Carnegie Steel Company

Signaling

THE NEW YORK, CHICAGO & ST. LOUIS has ordered from the Union Switch & Signal Company materials for an electric interlocking at Leipsic, Ohio; 19 levers, type F.

THE MISSOURI-KANSAS-TEXAS has ordered from the Union Switch & Signal Company material for the installation of automatic block signals on its line between Eureka, Tex., and Houston. Color-light signals will be used.

Electro-Pneumatic Car Retarders for Marion

The Erie has contracted with the Union Switch & Signal Company for the installation of an electro-pneumatic car retarder system at the westbound classification yard, Marion, Ohio. The yard will be enlarged from 16 tracks to 24, with provision for a future construction of 12 additional tracks. The system will include 17 retarders, three control machines, detector track circuits, a teletype system and loud speakers.

Miscellaneous

THE SEABOARD AIR LINE is now receiving bids at the Seaboard Bldg., Norfolk, Va., for the construction of an all-steel ferryboat to be used on the Savannah river, serving the terminals on Hutchinson Island, Ga. The new vessel, which is to replace one now in service, is to be of the single-screw type operated by a Diesel engine.

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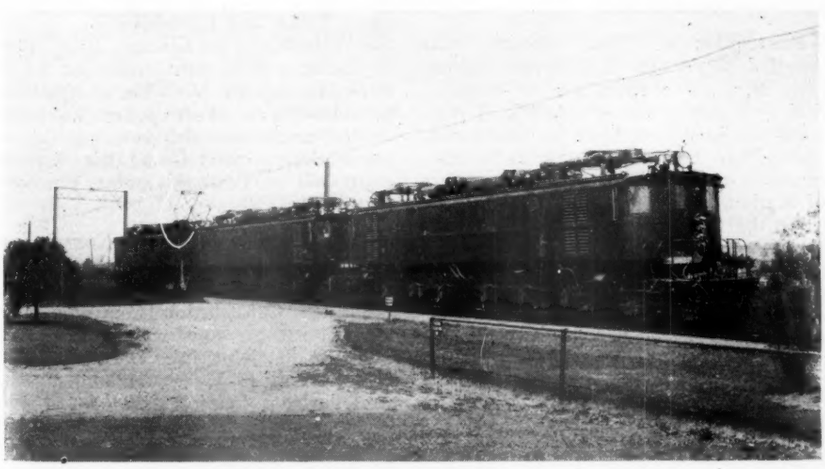

New Electric Power for the Great Northern

Three class 1-C-C-1, 260-ton, 11,000-volt motor-generator type single-phase electric locomotives are tested for regenerative electric braking on the test tracks of the General Electric Company at Erie, Pa., before shipment to the Great Northern. Four of these locomotives, practically duplicates of the four G. E. units now in operation on the Cascade Tunnel electrification in Washington, are being shipped to the railroad.

Supply Trade

The American Steel & Wire Company has awarded a bronze medal to its plant in Anderson, Ind., for not having a lost time accident in four years.

Fred T. Whiting, industrial manager of the **Westinghouse Electric & Manufacturing Company**, has been promoted to assistant manager of the northwest district, with headquarters in Chicago.

The American Fork & Hoe Company, Cleveland, Ohio, has acquired control of the **Skelton Shovel Company**, Dunkirk, N. Y., and the **Kelley Axe & Tool Company**, Charleston, W. Va.

On July 21, 1930, the offices and plant of the **Wilson Welder & Metals Company, Inc.**, were moved into a new building of that company at 956-970 Thirty-eighth street, west of Bergen turnpike, North Bergen, N. J.

P. J. Gibbons, formerly assistant secretary and treasurer of the **Vanadium Corporation of America**, 120 Broadway, New York, has been elected secretary and treasurer of that company, succeeding **Nils Falk**, deceased.

Walter Blocher, representative of the **Central Alloy Steel Corporation**, Massillon, Ohio, with headquarters at Indianapolis, Ind., has been appointed assistant district sales manager of the **Republic Steel Corporation**, at Pittsburgh, Pa.

Arthur Vogt, assistant district sales manager of the **Republic Steel Corporation**, Youngstown, Ohio, with headquarters at Pittsburgh, Pa., has resigned to become district sales manager of the **Associated Alloy Steel Company**, with headquarters at Cleveland, Ohio.

Following the reorganization of the **Empire Steel Corporation**, Mansfield, Ohio, **C. H. Hinkel**, executive vice-president, has been elected president to succeed **W. H. Davey**, who continues as a member of the board of directors. **J. D. Waddell** has been elected treasurer to succeed **W. R. Jenkins**, resigned. **C. H. Stamm** and **A. I. Davey** continue as vice-presidents in charge of sales and operations respectively.

The manufacturers of welded wire fabric reinforcement have established the **Wire Reinforcement Institute** with headquarters in the National Press Building, Washington, D. C. The purpose of the institute is to provide a centralized organization to exploit the technical and utilitarian merits of wire as used for concrete reinforcement. The institute will function as a promotional organization and its activities will include the assembly and dissemination of authentic information, data and statistics relevant to welded wire fabric and its uses. The activities will be conducted under the direction of **Royall D. Bradbury**, formerly vice-president in charge of the

welded fabric department of the Clinton Wire Cloth Company.

Standard Equipments, Inc., a new railroad supply company, has been organized by New York and Canadian interests, with the following officers:—**C. O. Bradshaw,** president; **R. F. Greenwood,** vice-president and engineer; **J. E. Ingram, Jr.,** vice-president, and **J. H. Rogers,** secretary and treasurer. This company, which has its main office at 415 Lexington avenue, New York, and a branch office in Montreal, Canada, is specializing in the manufacture and distribution of the Evertite rail joint. Mr. Bradshaw, president of the new company, who will have headquarters at New York, has a long background of railway experience. He entered railway service in the maintenance of way department of the Chicago, Burlington & Quincy in 1900, and in July, 1902, left that road to accept a position with the Great Northern, with which he remained

C. O. Bradshaw

until February, 1917, having been in this period an officer in both the transportation and maintenance departments. From February, 1917, to December, 1917, he served on the special Committee of National Defense of the American Railway Association, at Washington, D. C., and then resigned to enter the service of the Chicago, Milwaukee & St. Paul (now the C., M., St. P. & P). Mr. Bradshaw was with this road until January 1, 1928, in the positions of superintendent, general superintendent, assistant general manager and general manager. During the years 1918 and 1919, while serving as general superintendent on the Milwaukee, he also served as terminal manager for the United States Railroad Administration in the Milwaukee district. On January 1, 1928, he left the Milwaukee to accept the position of vice-president of the Robinson Automatic Connector Company of New York, which position he still retains.

Obituary

George Edward Pratt, manufacturers agent, Chicago, died on July 16 from a stroke of apoplexy. The business is being continued by **A. Pratt.**

Construction

CENTRALIA TERMINAL.—The Interstate Commerce Commission has denied the application of this company for authority to construct 2.2 miles of line in Lewis County, Wash.

CHICAGO & NORTH WESTERN.—This company is receiving bids on the construction of brick and steel inbound and outbound freight houses in the Merchandise Mart in Chicago. The outbound house is to be 37 ft. by 386 ft. and the inbound 66 ft. by 250 ft.

CHICAGO, BURLINGTON & QUINCY.—A contract has been awarded to the Burrell Engineering & Construction Company for the construction of a 200,000-bu. reinforced concrete addition to the grain elevator at Fourth street and Twenty-eighth avenue, Council Bluffs, Iowa.

INDIANA HARBOR BELT.—The Illinois Commerce Commission has asked the Indiana Harbor Belt, the Chicago, Aurora & Elgin and the Chicago Great Western to show why there should not be a separation of grades at a point where the Indiana Harbor Belt, the Chicago, Aurora & Elgin and the Chicago Great Western cross a highway in Bellwood, Ill.

MISSOURI-KANSAS-TEXAS.—A contract has been awarded the Kansas City Bridge Company for the construction of the substructure for a bridge over the Missouri river at Boonville, Mo.

MISSOURI PACIFIC.—A contract has been awarded the List & Weatherly Construction Company for the construction of a bridge across the Ouachita river at Arkadelphia, Ark., at a cost of $150,000.

NEW YORK CENTRAL.—This company is taking bids on foundations for a warehouse to be constructed at Sixty-second street and West End avenue, New York City, in connection with its general West Side improvement plan.

PENNSYLVANIA.—This company has awarded to Walter J. Coleman, Jersey City, N. J., a contract for the installation, at a cost of about $100,000, of electrical equipment required for the operation of two lift bridges now under construction over the Hackensack river, west of Marion, N. J. Contracts have also been let to the Nicholson Company, Inc., New York, for the construction of coal silos at Belmont avenue and Thompson street, Philadelphia, Pa., at a cost of approximately $72,500, and to Sinclair & Grigg, Philadelphia, for the removal of an existing overhead bridge and the construction of a new steel and concrete bridge to carry the Lincoln Highway, state route No. 128, over this company's tracks east of Mountville, Pa. The cost of this work is estimated at $37,000.

ST. LOUIS-SAN FRANCISCO.—This company will soon take bids for the construction of a viaduct over its tracks at Old Orchard, St. Louis County, Mo. The estimated cost of $20,000 will be divided equally between the county and the railroad.

ST. LOUIS-SAN FRANCISCO.—A contract has been awarded the Manhattan Construction Company for the construction of three reinforced concrete and steel platform shelters, each 600 ft. long, at Tulsa, Okla., while Reid & Lowe have been awarded a contract for the construction of the platforms.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—Plans have been prepared for the construction of an 800-ft. reinforced concrete viaduct to carry Broadway avenue in Venice, Ill., over the tracks at this point. The estimated cost is $500,000, which will be divided among the Terminal Railroad Association, the Illinois Terminal Railroad and the city.

TRINITY VALLEY & NORTHERN.—This company has applied to the Interstate Commerce Commission for authority to construct a line from Cleveland to Havens, Tex., 12 miles.

VIRGINIAN.—This company has awarded to the Virginia Bridge & Iron Company, Roanoke, Va., a contract for the fabrication of steel required for the superstructure of the Virginian's new bridge over the Kanawha river at Deep Water, W. Va. A contract for the substructure of the new bridge, the most important feature of a one-mile connection now under construction at Deep Water between the Virginian and the Kanawha & Michigan, a subsidiary of the New York Central, was awarded several weeks ago to Boxley Brothers Company, Inc., Orange, Va., who are also the general contractors for the rest of the connecting line, as reported in the *Railway Age* of June 21 and July 5. The masonry work in the substructure will cost about $325,000, while the cost of the steel superstructure will be about $200,000. Present plans call for the completion of the bridge by next spring.

WABASH.—A contract has been awarded R. J. Blackburn, Inc., for the construction of a reinforced concrete viaduct to carry Union and Lindell boulevards over the Wabash and the Chicago, Rock Island & Pacific jointly used tracks at Forest Park in St. Louis, Mo. The contract also provides for a 100-ft. pedestrian bridge of the continuous slab concrete type of construction to carry Grand drive over the depressed tracks at this point. The total cost is $131,600.

WESTERN PACIFIC-GREAT NORTHERN.—The Western Pacific has awarded a contract to the W. A. Bechtel Company and the Utah Construction Company, joint bidders, for the construction of its portion of the joint line extending from Keddie, Cal., to Bieber, 112 miles. The work includes clearing, track laying, ballasting, fencing, the construction of 11 tunnels with an aggregate length of 6,500 ft., and the building of five steel viaducts and four steel bridges. The Great Northern expects to award contracts for the construction of its portion of the connecting line from Bieber to Klamath Falls within two or three weeks.

Financial

ATLANTIC COAST LINE.—*Proposed Acquisition of C. & W. C.*—Examiner W. T. Wilkinson of the Interstate Commerce Commission has recommended in a proposed report that the commission authorize the acquisition by this company of control of the Charleston & Western South Carolina as an integral part of its system, subject to conditions that the present neutrality of handling traffic over the line of the C. & W. C. be continued and that it be maintained as an open route equally available to all connecting carriers. The A. C. L. proposes to purchase the 12,000 shares of the stock of the C. & W. C. from the Atlantic Coast Line Company, for $150 a share, conditioned on the C. & W. C. first declaring and paying a cash dividend of 83 1/3 per cent, or $1,000,000, out of cash on hand, and also to lease the property for 99 years. The proposal is a step in furtherance of the commision's consolidation plan. The examiner also recommends that authority be granted the C. & W. C. to issue $1,000,000 of first consolidated mortgage bonds, to be sold at not less than par and interest, and at competitive bidding if sold to the A. C. L. Company, the proceeds to be delivered to the A. C. L. Railroad as part of the leased property and expended for additions and betterments.

BALTIMORE, CHESAPEAKE & ATLANTIC.—*Final Value.*—The Interstate Commerce Commission has issued a final valuation report finding the final value for rate-making purposes as of June 30, 1915, to be $3,167,309.

BOSTON TERMINAL.—*Bonds.*—The Interstate Commerce Commission has authorized this company to issue $1,163,000 of first mortgage 4 per cent bonds, maturing in 1950, the issue being authorized for sale to Lee, Higginson & Co. and the First National-Old Colony Corp., both of Boston, Mass., at 99.09, making the annual cost to the railroad approximately 4.07 per cent.

GLADY & ALPENA.—*Excess Income.*—The Interstate Commerce Commission in a tentative report has ordered this company to pay $3,222 as representing one-half its excess income for the period March 1, 1920, to August 10, 1922.

IRONTON.—*Tentative Excess Income Report.*—The Interstate Commerce Commission has issued a tentative report as to this company's excess income for recapture purposes for the period September 1, 1920, to December 31, 1924, and has ordered it to pay $589,708 as one-half of the excess within 40 days. The filing of a protest will stay the operation of the order.

LOUISVILLE, NEW ALBANY & CORYDON.—*Excess Income.*—The Interstate Commerce Commission in a tentative report has ordered this company to pay $3,300 as representing one-half its excess income for the period 1920 to 1928.

PENNSYLVANIA.—*Clayton Act Case.*—W. H. Bonneville and H. L. Underwood, counsel for the Interstate Commerce Commission, have filed a brief asking the commission to issue an order requiring the Pennsylvania and the Pennsylvania Company to divest themselves of stock of the Wabash and Lehigh Valley on the ground of violation of Section 7 of the Clayton anti-trust law. They assert that the Pennsylvania Company, which took title to the acquired stock, was the agent or instrumentality of the Pennsylvania, which thus "indirectly" acquired the stock, and that there is competition between the Pennsylvania and the other two roads. As to the contention of the Pennsylvania that the stock was acquired as an investment the brief says: "To hold that an acquisition which President Atterbury frankly admits was for the purpose of protecting the Pennsylvania Railroad Company against other competitive lines, of extending its influence and power, as to traffic and otherwise, is an investment, would be to make the Clayton act meaningless; and a construction of the exception such as contended for by respondents would emasculate Section 7. If this acquisition is held to be 'solely for investment,' then no acquisition is within the purview of Section 7." It is also declared that the cost to the Pennsylvania Company in interest paid and interest lost on securities sold to finance the transaction, $9,072,006, exceeds by $2,590,694 the amount of the dividends received on the stock to April, 1930.

PRESCOTT & NORTHWESTERN.—*Excess Income.*—The Interstate Commerce Commission has issued a tentative report as to this company's excess income for recapture purposes for the period 1920 to 1927 and has ordered it to pay $8,551 as one-half of the excess ascertained for the year 1925.

READING.—*Bonds.*—The Interstate Commerce Commission has authorized this company to issue $15,000,000 of 4½ per cent, series B, general and refunding mortgage bonds to mature in 1997, the issue being authorized for sale to the First National Bank of New York at 97½, making the average annual cost to the railroad approximately 4.62 per cent.

Control of Wildwood & Delaware Bay Short Line.—The Interstate Commerce Commission has authorized the Atlantic City, a subsidiary of the Reading, to acquire control of the Wildwood short line company by purchase of its capital stock.

Control of the Trenton-Princeton Traction.—The Interstate Commerce Commission has authorized the Reading to acquire control by purchase of capital stock of the 12.6-mile line of this electric line which extends from Trenton, N. J., to Princeton.

SALEM, WINONA & SOUTHERN.—*Excess Income.*—The Interstate Commerce Commission has issued a tentative excess income report ordering this company to pay $4,699 as representing one-half its excess income for the period 1920 to 1928.

SEABOARD AIR LINE.—*Abandonment.*—This company and the Tampa Northern have applied to the Interstate Commerce Commission to abandon the latter's branch from Tooke Lake Junction to Tooke Lake, Fla., 12.29 miles.

SEABOARD AIR LINE.—*Stock.*—The Interstate Commerce Commission has authorized this company to use $3,247,000 of the proceeds from the sale of common stock for retirement and cancellation of equipment trust obligations.

SOUTHERN PACIFIC.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire control by the purchase of all the capital stock and rights to such stock of the Gulf & West Texas, which has been authorized by the commission to build 169 miles of new line in Texas. The application states that the cost of the stock will not exceed $50,000 and that its acquisition will assure construction of the line from San Antonio to San Angelo, Tex.

SOUTHERN PACIFIC.—*Interest in Cotton Belt.*—Hale Holden, chairman of the executive committee of the Southern Pacific Company has announced that ownership of a substantial block of the common and preferred stocks of the St. Louis Southwestern were acquired some time ago by the Southern Pacific and that the company had recently completed the purchase of additional shares of both issues but in amounts leaving the aggregate of its holdings at less than a majority interest. It has also entered into an agreement in the nature of an option, affording it the opportunity to increase its holdings to more than a majority of the stock outstanding, conditioned, however, upon approval by the Interstate Commerce Commission. "The steadily increasing interchange of business between the Southern Pacific and Cotton Belt routes, affording direct connection from the Southern Pacific's important North Texas communities to St. Louis and Memphis gateways and intervening territory," it was stated, "influenced Southern Pacific Company to take this step, believing that it will insure the preservation of existing routes and channels of commerce. in harmony with the provisions and policies of the Transportation Act, and for the betterment of the service afforded by the Southern Pacific to its patrons."

SOUTHERN PACIFIC.—*Asks Authority to Acquire Cotton Belt.*—This company on July 25 filed with the Interstate Commerce Commission an application for authority to acquire control of the St. Louis Southwestern, which with its controlled and affiliated companies operates 1,809 miles of line, by purchase of 24,700 shares of common stock and 59,380 shares of the preferred stock in addition to 87,200 shares of preferred stock and 42,600 shares of common which it now owns. It is proposed to purchase the additional stock, which would give the Southern Pacific a majority of the voting shares, for $7,887,488, under an agreement dated July 15 with Kuhn, Loeb & Co., which gives it a right to purchase the shares at that price with interest at 4½ per cent subject to prior approval of the commission. There are outstanding 198,936½

shares of preferred stock and 171,861 shares of common stock of the Cotton Belt. The application was accompanied by a motion for a modification of the commission's consolidation plan, which had assigned the Cotton Belt to System No. 10—Illinois Central, to transfer it to System No. 16—Southern Pacific. The application said that "as a step toward a natural and logical unification of railroad lines of the United States in the public interest in accordance with the principles enunciated by Congress we believe this application presents a proposal that is about as closely in harmony with and as free from violation of recognized sound principles as can be found." It was pointed out that through routes, composed of the lines of the two systems, have been long and continuously maintained through the points of connection in competition with other carriers serving extensive territories reached by the southern and southwestern lines of the S. P. and Cotton Belt and that it has been the practice of the Cotton Belt to actively and preferentially solicit, via these through routes, freight traffic to or from points reached by the S. P. lines, while the latter has reciprocated. It was also contended that in the territory affected the competition afforded by other carriers having through lines is such that there can be no allocation of the St. Louis Southwestern to any system other than the Southern Pacific that will not appreciably retard or destroy competition. The two lines are in no sense parallel or competing, the application said, and the granting of the relief sought will result in the linking up of two systems by end to end contacts, the practical effect of which is to extend the Cotton Belt further into the southern and western parts of the United States and to extend the Southern Pacific lines north to such important centers as St. Louis and Memphis.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue and sell $3,500,00 of general mortgage 4 per cent bonds to retire before maturity a like amount of Merchants' Bridge Terminal Railway first mortgage bonds. The company has a tentative arrangement with J. P. Morgan & Co., for the sale of the bonds at 88.

WEST VIRGINIA MIDLAND.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Diana to Webster Springs, W. Va., 12.91 miles.

Average Prices of Stocks and of Bonds

	July 29	Last week	Last year
Average price of 20 representative railway stocks.	116.48	118.10	151.68
Average price of 20 representative railway bonds..	94.64	94.43	90.30

Dividends Declared

Illinois Central.—Common, $1.75, quarterly, payable September 2 to holders of record August 8; preferred, $3.00, semi-annually, payable September 2 to holders of record August 8.

Maine Central.—Common, $1.25, quarterly, payable October 1 to holders of record September 15; preferred, $1.25, quarterly, payable September 2 to holders of record August 15.

Mine Hill & Schuylkill Haven.—$1.50, payable August 1 to holders of record July 18 to July 31, inclusive.

Railway Officers

Executive

Herbert Fitzpatrick, vice-president and general counsel of the Chesapeake & Ohio, with office at Cleveland, Ohio, has applied to the Interstate Commerce Commission for authority also to hold the position of vice-president—law and corporate relations—of the Missouri Pacific and affiliated or controlled companies.

Operating

J. A. Frogner, division superintendent of the Great Northern, at Havre, Mont., has been transferred to Great Falls, Mont., and is succeeded by **T. F. Dixon,** division superintendent at Klamath Falls, Ore., who in turn, is succeeded by **C. A. Manthe.**

Traffic

C. R. Davies has been appointed assistant general freight agent of the Erie at Cincinnati, Ohio, succeeding **E. W. Vail,** promoted. Mr. Davies will be succeeded as general agent at Springfield, O., by **H. W. Von Willer** while **T. J. Flynn,** commercial agent at Cincinnati, will succeed Mr. Von Willer as general agent at Springfield.

A. T. McKean, who has been promoted to general freight agent of the Canadian Pacific at Vancouver, B. C., was born on December 18, 1886, at St. John, N. B., and entered the employ of the Canadian Pacific in April, 1903, as

A. T. McKean

a clerk and stenographer at St. John. In 1906 he was transferred to Winnipeg, Man. Later he was promoted to traveling freight agent, city freight agent and division freight agent, and in May, 1920, he was transferred to Calgary, Alta., as division freight agent. In December, 1927 he was promoted to assistant general freight agent at Vancouver, B. C., which position he has held until his recent appointment.

Engineering, Maintenance of Way and Signaling

D. McCooe, superintendent of track of the Canadian National, with headquarters at Toronto, Ont., has retired from active service.

Mechanical

H. W. Pinkerton, assistant electrical engineer of the Cleveland Union Terminals Company, has been promoted to electrical and mechanical engineer of the Cleveland Union Terminal.

Obituary

Chauncey T. Lamb, president of the Rapid City, Black Hills & Western, died at Great Falls, Mont., on July 25, following a paralytic stroke.

Ben Wagner, assistant general freight agent of the New York Central with headquarters at Chicago, died on July 23 from paralysis of the throat.

E. S. Newton, purchasing agent and store keeper of the Gulf, Colorado & Sante Fe, with headquarters at Cleburne, Tex., died on July 23 following a heart attack.

John D. Moore at one time general superintendent of the Fort Worth & Denver City, receiver of that road from October, 1893, to January, 1895, and assistant superintendent of the Missouri Pacific at Helena, Ark., from 1910 to 1927, died at Hot Springs, Ark., on July 26.

J. Coleman, formerly general superintendent of the car department of the Canadian National at Toronto, died of apoplexy on July 13, at the age of 70 years. Mr. Coleman who was born at Port Huron, Mich., in 1860, started his railway career with the Grand Trunk at the age of 16 years. He retired from active service in 1926. Mr. Coleman was also past chairman of the Mechanical division of the A.R.A.

Robert D. Pusey, general passenger agent of the Louisville & Nashville, died of pernicious anemia on July 26, at Louisville, Ky., following a short illness. Mr. Pusey was born at Brandenburg, Ky., on February 28, 1876. He was educated in the public schools and began railway work in April, 1893, with the Pittsburgh, Akron & Western. In October, 1896, when that road was purchased by the Lake Erie & Western and its name changed to the Northern Ohio, he was transferred to Indianapolis, Ind., where he was employed in the accounting department. For three years from January, 1901, he was in the office of the general passenger agent, and was then appointed chief clerk. He left the Lake Erie & Western to become assistant general passenger agent of the Louisville & Nashville in September, 1910, and in November, 1911, he was promoted to general passenger agent.